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NEW---

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DRUG ERUPTIONS

BY FRED WISE, M.D.*

Professor of Dermatology and Syphilology, New York Post-Graduate Medical School and Hospital

THE interest in drug eruptions is due to the fact that they can mimic common and rare diseases. For example, a bromide rash can simulate tuberculosis cutis verrucosa or blastomycosis. The necessity of diagnosing drug eruptions is illustrated in the case of those due to phenolphthalein, a common constituent of proprietary laxatives. The average patient takes cathartics to get rid of an eruption; but if his rash is due to phenolphthalein and he takes more of the drug to get rid of the rash, he is constantly making it worse.

Bromide eruptions have a site of predilection —the leg. The differentiation from eczema and syphilis is important. The tuberose form may be very much like an unresolved gumma. The peculiar odor of a bromide eruption, especially if there is a purulent secretion, often gives the diagnosis. A bromide eruption may mimic the tendency of tuberculosis cutis verrucosa to flatten out. The differentiation from the latter condition or from blastomycosis often requires biopsy and bacteriological or histological examination. The common disseminated type, "bromide acne" is difficult to differentiate from iodide rash. In children, bromide lesions on the face may resemble mycosis fungoides or leukemia cutis. Lesions may be circumscribed like those of ring-worm and may even be confused with pityriasis rosea or measles. One should try to make the diagnosis of a rash without asking questions, but it may be necessary to look into the history. Eruptions may be due to drugs alone or may be altered in their appearance by drugs.

Iodides cause eruptions similar to those of bromides, but there is a tendency to hemorrhagic lesions. Vesicles and papules are not common, but are caused more often by iodides than by most other drugs. Iodides may initiate an acne or cause the acute flareup of an acne already present. The differentiation between iodide acne and acne vulgaris is that in the latter "blackheads" are nearly always present. The backs of the hands are areas of predilection for iodide eruptions. There is a tuberose form in which there are subcutaneous or superficial lumps. The morbilliform type of eruption is not common with iodides.

Phenolphthalein causes in susceptible individuals a pigment-bearing hemorrhagic eruption. There are irregularly distributed polychromic patches which do not disappear on pressure. In many cases there is a peculiar mottling or stippling within the lesion. There is no particular area of predilection, but most cases show an area right over the gluteal fold. The buccal mucosa and penis or vulva may be involved, giving a remarkable similarity to syphilis. Antipyrine and phenacetin may produce similar lesions on the genitalia. Microscopic examination is especially important in such a case. The histological picture of a phenolphthalein lesion shows pigmentation, but the pathological changes are not in proportion to the gross changes in appearance. The duration of a phenolphthalein eruption may extend up to nine years. The lesions may become atrophic and cause permanent disfigurement. Brunettes show the eruption much more than blondes, and retain it longer.

Arsenic is a much more dangerous cause of eruption than phenolphthalein. Whereas a person must be susceptible to the latter drug, any one can have an arsenical eruption or pigmentation if given enough of the drug. Lesions due to arsenic may take the form of a hyperkeratosis with warty growths. There may be an eruption similar to chloasma. On the other hand, one or two squamous cell epitheliomas may be the only manifestations of arsenic. There seems to be a leukodermatous type in which there is an actual loss of pigment in between the pigmented spots. The term "precancerous dermatosis" applied to the warty growths is a misnomer. The lesions are really cancerous, and the term "Bowen's disease" should be avoided, because often the lesions to which it is applied are not precancerous, but due to arsenic. Arsphenamine dermatitis is often severe, sometimes of an exfoliative type; or there may be a "nutmeg grater-like" eruption. An arsphenamine eruption may resemble lichen planus; by analogy it would seem that lichen planus is due to some sort of toxic agent.

*For record and address of author see "This Week's Issue," page 903.

REGULAR HEALTH EXAMINATIONS

BY BERTRAM L. BRYANT, M.D.*

Secretary of the Maine Medical Association

A "PERIODIC" health examination is the same as any other physical examination. In the past few years the public has been educated to the idea of regular health examinations, but it soon discovered that, in general, physicians were not prepared to give this service. They felt that some new and elaborate procedure was demanded. Few realized that a physical examination, whether on a healthy or a sick person was practically the same and different in name only. Lack of time was a drawback. Now, in Maine, they are trying to impress upon the practitioner the necessity of raising fees and taking more time with each case, keeping case records, and fitting himself for the work by taking post-graduate courses, if necessary.

The regular health examination is nothing more nor less than the examination the physician should give to every patient who comes into his office for the first time. If the general practitioner equips himself for making thorough physical examinations and keeps records, he will build up a reputation and a clintele. The problem of regular health examinations will then be solved, for they will be the routine work of the general practitioner.

Office Equipment—The ordinary office equipment of the general practitioner is sufficient for nearly all physical examinations. The arrangement is important; everything should be convenient, so as to facilitate rapid and efficient routine work. A model plan of a suite of rooms is presented as a suggestion. It shows the physician's desk in the examining room equipped with records, examination blanks, tray of tools to be used only for the examinations, etc. A revolving stool for the patient, scales, and a couch for examinations in the prone position are nearby. A small adjoining room is equipped with a laboratory desk for urinalysis, and a small X-ray machine with fluoroscope, which is arranged so that a casette can be slipped over the fluoroscope screen and a permanent record made. The plates are developed within ten minutes by the secretary, and the report made while the patient is dressing.

Blanks have been too cumbrous in the past. A few questions, skillfully asked, will take the place of a sheet made out by the patient, and positive findings alone noted. The simpler the blank, the better. Card size 6″ x 8″ is recommended.

Examinations—First comes the history taking and general size-up of the patient, the blank being filled out while the patient undresses. Height and weight are taken, then a systematic physical examination done, beginning with the scalp and working downward. Head, neck, chest, spine, and blood pressure are done with the patient on the stool before the physician; then posture, viscera, lower limbs and tests for hernia are noted with the patient standing. Then with the patient prone on the couch, heart and abdomen are gone over, and vaginal and rectal examinations (when indicated) are made. Urine is collected in the laboratory, and examined while the patient is dressing. The patient then sits down with the physician for a summary of findings. Habits are gone into, necessary advice given, and the time set for the next examination. The card is then filed and the secretary collects the fee.

Such an examination is sufficient to cover the great majority of cases. An examination de luxe including an extensive X-ray series and various laboratory and special tests can be given if the patient desires it; it would be limited in extent only by the wishes of the patient and his ability to pay, and could extend over several days.

Common Defects—Bad mouth conditions are very commonly found. They demand the early attention of a good dentist. The physician should be on the look-out for the early symptoms and signs of tuberculosis. Every patient with one or two of them should be X-rayed. When it reaches the stage of easy diagnosis, tuberculosis is usually far advanced. A common defect is that of posture. Correct habits of standing and walking should be insisted upon. One of the most difficult problems is the underweight, overworked woman of moderate means. On the other hand there is the well-to-do woman with too much leisure. The physician is often called upon to correct the common disorders of overweight, underweight, constipation, sleeplessness, and arterial hypertension. He should be prepared to help his patients with specific instructions. Correction of over-eating and lack of exercise are important in overweight; in underweight the opposite—fattening food and larger quantities, longer hours of sleep, an hour or two of absolute rest in the middle of the day, and habits of relaxation from nervous tension. Constipation can usually be corrected by regulation of habit and attention to diet, with mineral oil in the beginning. Various causes such as irregular bed-time, mental overwork, worry, too little physical exercise, etc., have to be considered in giving advice on sleeplessness. Nothing has been so misused or so badly interpreted as blood pressure findings. Patients over fifty with a moderate rise in tension, should be reassured if no pathology is found in the heart, blood vessels, and kidneys. Correction of bad habits, moderation in diet, regulation of bowels, and measures to relieve physical and mental stress and high nerve tension will often keep the pressure within the limits of safety or effect a drop to normal.

*For record and address of author see "This Week's Issue," page 903.

THE NATURE, SPECIFICITY, SENSITIVENESS AND PRACTICAL VALUE OF THE KOLMER-WASSERMANN REACTION

BY JOHN A. KOLMER, M.D.†

Professor of Pathology in the Graduate School of Medicine in the University of Pennsylvania

SINCE the Wassermann reaction is not strictly or biologically specific for syphilis it is subject to error if not carefully handled. Many proposed modifications of the test have led to wide variations in results, confusion as to its value, and a demand for standardization. The sources of error in the Wassermann reaction are of two types: (a) unavoidable or biological, as serum changes due to diseases other than syphilis, e. g., frambesia; and (b) avoidable or technical—in complement, hemolysin, antigen, and careless methods.

The Kolmer method* sacrifices some degree of sensitiveness in order to assure specificity. Delicacy can be increased, but at the cost of specificity. Therefore, from the diagnostic standpoint, "over-delicacy" is a serious defect for routine work. The aim should be the maximum of sensitiveness consistent with specificity.

In relation to specificity and the practical serum diagnosis of syphilis no reactions are more important than the unexpected positives and the weakly positive reactions. Unexpected positive reactions will always occur. Much harm can be done by ignoring them, even though they are but weakly positive, since they are likely to occur during the so-called latent stages of the disease or after prolonged absence from specific medication. They should be repeated at least, if possible without informing the patient of the reason.

The non-specific positive Wassermann reactions reported in fever states were probably due to errors in technique. The possibility of temporary negative reactions in fever states is greater. Though typhoid fever, pneumonia, scarlet fever, tuberculosis, malaria, and Vincent's angina have no influence per se on the reactions, it is true that the sera may become somewhat more anticomplementary than usual and thereby require due care for avoiding technically non-specific reactions.

The supposed non-specific positive reactions seen in leprosy, pregnancy, and diabetes are due to coincident syphilis. The new test does not give false positives in these conditions nor in nephritis, uremia, jaundice, thyroid disease, tumors, and lead poisoning.

The complement-fixation test with spinal fluid free of anticomplementary activity is even more specific under proper technical conditions than in the case of sera. Spinal fluid has given negative reactions in all types of non-syphilitic meningitis and in all other non-specific conditions, with the exception of frambesia.

The new (Kolmer) method has proved equal or superior to raw serum tests in sensitiveness for the detection of syphilis antibody in the sera of syphilitic individuals under treatment, and in clinically obscure cases of untreated syphilis. As a general rule the specificity and sensitiveness of the various precipitation tests have been compared with "the Wassermann reaction" without regard to the technique of the latter. The percentage of agreement between the Kahn test and the Kolmer test is in the neighborhood of 94 to 96 per cent., under routine conditions. The Kolmer test is generally more sensitive in untreated syphilis, but the Kahn test slightly more sensitive in some cases of treated syphilis. The sensitivity and specificity of the Kahn reaction is influenced by the time when the readings are made; sensitivity is greater after overnight incubation in the refrigerator, but some non-specific reactions result. The Kahn reaction is subject to as much variation in different laboratories as the complement-fixation reaction.

A positive complement-fixation reaction carries at once strong presumptive evidence of the presence of syphilis and it is up to the clinician to prove that syphilis is absent rather than upon the serologist to prove that it is present. The complement-fixation and precipitin reactions are, after all, the best single signs of the disease and especially when repeatedly positive after the primary stage. However, while they show that syphilis is present they do not necessarily show that a particular lesion is syphilitic.

Regarding the clinical value of negative complement-fixation reactions—they are more reliable in excluding syphilis as the cause of active lesions than of latent or quiescent ones. Relatively few organisms may produce signs of syphilis without producing sufficient antibody for detection in the test tube. Syphilis should not be excluded on the basis of a single negative reaction, since the amount of antibody may vary from day to day. The important lesson to be learned by the majority of practitioners is not to ignore positive reactions, but to distrust negative reactions and never to accept a single negative as excluding syphilis when suspicious clinical signs or history are present.

The incidence of syphilis (general average, 6 to 10%) and the clinical value of the serum tests warrant routine blood tests on all dispensary and ward patients and most private patients. Every case of syphilis requires at least one or two complete examinations of the spinal fluid, for diagnostic purposes and as a check on the results of treatment.

The complement-fixation test is a reliable guide in the treatment of syphilis. When used as a criterion of cure, negative reactions over

*Am. Jour. Syph., 1923; for latest and complete description, see Kolmer's "Serum Diagnosis by Complement Fixation", Lea and Febiger, 1928.

†For record and address of author see "This Week's Issue," page 903.

at least two years must be insisted upon, with tests every two months during the first year after the last course of treatment, including a spinal examination, and every four months during the second year. In cases of chronic or latent syphilis the tests should be conducted thereafter at least twice a year for several more years. The complement-fixation test is usually the first sign of relapsing syphilis.

As the sensitivity of the complement-fixation test has been increased it has been increasingly difficult serologically to "cure" or arrest late cases. This is the explanation of Wassermann-fast syphilis. In a series of 458 patients with persistently positive reactions, Stokes and Busman failed to find other evidence of syphilis in only 2%.

WHAT CAUSES CONSTIPATION?

BY WALTER C. ALVAREZ, M.D.*

Associate Professor of Medicine, University of Minnesota, Mayo Foundation

CONSTIPATION is commonly thought of as stagnation throughout the whole colon. Experience shows that this is not correct. If we examine each case and find out just where the stagnation is we may entirely change our conception of constipation. Three typical cases of constipation show that retention may be due to the fact that: (a) the rectum does not empty properly; (b) the colon is unusually large; or (c) the colon is too thrifty. Another type of patient where the term "constipation" is a bad one to use is where there is obstruction at the pylorus, which prevents the food from coming out of the stomach in sufficient "rushes" to start peristalsis. One of the commonest early symptoms of carcinoma of the stomach is "constipation".

The routine treatment of constipation by purgatives is illogical, because it does not take into account the cause of the stasis and the condition of the patient. The colon has to fill up to a certain extent before it empties naturally. In the case of an abnormally large colon, the treatment was to let nature take its course, and the patient remained in perfect health with but one movement a week. Likewise, a patient living on a diet that gives a very small residue can not be expected to have large and frequent movements. How foolishly we deal with the so-called constipated is illustrated by a case where the treatment resulted fatally. An aged patient whose heart had been fibrillating was improving; then he was given two ounces of salts. He spent the night on the bed-pan and died the next day. He had been confined to bed, on a restricted diet. There was no reason to expect him to have ordinary bowel movements. Why go digging for feces that are not there?

The theory that the residue from the food of one day should appear in the stools of the next day has been disproved by the results of an experiment. Glass beads were fed to healthy medical students and afterwards recovered from the stools. The time required for the passage was charted. There were three groups of students: (a) Only two conformed with the theoretical ideal and passed 90% of the beads within 24 hours; (b) The majority passed 60-80% of the beads by the fourth or fifth days; (c) Another group took nine days to pass 60% of the beads. This experiment was confirmed by two careful repetitions. The colon is likened to a siding with three freight cars on it, each representing one day's meals. After a thorough purging the entire "track" is emptied, and one should not expect restoration of regular normal movements for three days.

A certain class of people who are highly sensitive to nervous stimuli from the intestinal walls complain of "feelings of auto-intoxication" and tend to abuse themselves with purgatives. Often the secret of success with these people is to get them to omit the purgatives, by pointing out the fact that a headache resulting from toxins in the blood will not disappear immediately after a movement. Their symptoms are due merely to a distention of the walls of the colon and can be duplicated by stuffing it with cotton.

Food passes down the intestine because there is a gradient, both in frequency and tendency of the bowel to contract, from the duodenum down to the colon. The old experiment of Hess showed that the force exerted on an object in the intestine gradually decreases as the distance from the pylorus increases. This normal gradient may be: (a) flattened, as is possibly the case with the asthenic type of individual; (b) obliterated, as after an operation; (c) steepened, by removal from the normal check at the rectum; or (d) reversed. The clinical manifestations of these conditions would be sluggishness; cessation of peristaltic rushes, with ileus resulting; diarrhea; and vomiting. Peristalsis may sometimes be started after an operation by chewing gum.

A consideration of the anatomy and physiology of the gastro-intestinal tract shows several regions where lesions might produce constipation: (1) Pylorus—obstruction due to carcinoma should be suspected in any patient over 45; (2) Duodenum—disease of the gall bladder is probably one of the commonest causes of severe constipation in women; (3) Small intestine—obstruction; (4) Ileo-caecal sphincter—primary irritation here, or spread from a diseased appendix may cause constipation; (5) Colon—obstruction, e. g., by malignancy or diverticulosis; (6)

*For record and address of author see "This Week's Issue," page 903.

Rectum—may be obstructed by pressure of adjacent organs or by tumor masses, probably not by hypertrophy of Houston's valves; (7) Anal ring—may be in spasm due to local irritation, or the muscles around the anus may take part in the general contraction that results from worry and nervousness. The last-mentioned is probably the explanation of the psychic factor in constipation.

Enteroptosis is rarely, if ever, a cause of constipation, but adhesions may be. The classification of atonic constipation is discarded. All constipated bowels are spastic. All atonic bowels are diarrheic.

MEDICAL AND SURGICAL PROBLEMS IN PROSTATIC OBSTRUCTION

BY HUGH H. YOUNG, M.D.*

Director James Buchanan Brady Urological Institute, Johns Hopkins University

THE active part played by the trigone in micturition explains the trigonal hypertrophy seen in median bar prostatic growths. The muscles of the trigone become hypertrophied in the effort to pull the growth down and open the internal sphincter. In early prostatic obstruction, the removal of the median bar by the punch operation is satisfactory, but later the lateral lobes are enlarged, compressing the prostatic urethra.

Prostatic hypertrophy and carcinoma are found side by side in 10% of cases. Not infrequently the carcinoma is not found in the enucleated prostatic mass because there has been no invasion.

In cases of prostatic obstruction the kidney function improves rapidly with drainage, especially if the obstruction is not long-standing. An increase in phthalein excretion from 16% to 40% may take place in a few days, with a rapid drop in blood NPN. The consequences of too rapid drainage after catheterization, i. e., fall in blood pressure, suppression of urine and uremia, may be avoided by having the bladder drain against the pressure of a mercury manometer, which is regulated by gradually lowering the mercury reservoir.

Operative Considerations—The use of sacral or caudal anesthesia is recommended. A 3% solution of procain or novocain is injected into the epidural space, the needle entering via the sacral notch. If the operation is to be in the perineal position, flexion of the pelvis on the spine is very important. The perineal operation has advantages over the supra-pubic and can be done without the loss of blood for which it was formerly condemned, if an inverted V incision rather than a mid-line incision is made. Drainage is much better after the perineal operation. Carcinoma should be suspected in cases where the prostate is hard, and when it is found, the radical operation is indicated. Complete urinary control may be retained after radical operation by anastomosing the bladder with the stump of the urethra and taking care to preserve the nerves to the triangular ligament, thus keeping the external sphincter intact. In a series of 27 cases in which the radical operation was done, 62% are living and without recurrence, five years after operation.

The punch operation for median bar hypertrophy is very simple, performed in less than a minute under cocain anesthesia. The only objection is bleeding. Searing the cut surface with an electric cautery cuts down bleeding and does not produce the slough the cautery punch does. The punch operation should not be used for advanced hypertrophy of the prostate. It is applied very effectively in cases with congenital valves of the veru montanum, associated with enlargement of the ureters and hydronephrosis. A "baby" punch, a miniature of the regular one, is used on these infants. Most of them are uremic and require the same careful pre-operative treatment as adults with obstruction.

Infections, local and ascending, play the greatest part in the mortality in cases of obstruction. Intravenous mercurochrome has been found very effective in combatting infections. It has brought about cures in cases of pyelitis with septicemia, perinephritic abscess, lung abscess, and in an unusual case of scarlet fever with erysipelas, streptococcus hemolyticus infection and septicemia. Freeman and Hoppe have presented a series of 200 cases of pneumonia in children, in which the mortality was reduced from the previous rate of 25% to 8% by intravenous mercurochrome treatment. At first it was thought that mercurochrome made the blood germicidal. Now it is known that it does not do this, but it causes some sort of a reaction, the exact nature of which is unknown, but which makes the blood stream sterile and causes a drop in temperature. It does not always succeed but the results justify its trial. It is used without hesitation in the presence of albumin, casts, and nephritis, and even in cases where it is impossible to say definitely where the infection is. Intravenous mercurochrome is not given in as large doses as formerly. Smaller amounts give the same sterilizing effect. Except in acute fulminating cases where large doses are given, 10 cc. of 1% aqueous solution per 100 pounds of body weight is injected.

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SOME CONSIDERATIONS IN DISEASE OF THE LIVER

BY LEONARD G. ROWNTREE, M.D.*

Professor of Medicine, University of Minnesota Graduate School of Medicine

THE liver is a bilateral organ with a bilateral vascular system. This fact is of extreme clinical importance. Casts made of the biliary system in various conditions show the remarkable extent of biliary dilatation in cases of obstruction. The dilatation is proportionately as great as that of the kidney in hydronephrosis. This shows the importance of early removal of obstruction, before dilatation and functional change take place. Due to the intertwining of the vessels of the portal and biliary systems, obstruction and dilatation in one system probably causes constriction and partial obstruction of the other. This seems to be a factor in the development of mixed types of cirrhosis.

The study of the functions of the liver is a tremendous field, now only in its infancy. As a rule we are not in a position to determine any changes in the functions of nitrogen, carbohydrate and fat metabolism in the liver. The only real success we have had in measuring function in humans is in relation to bile formation and excretion.

The results of hepatectomy in dogs have given us proof where we had only theory before. The associated hypoglycemia and retention of serum bilirubin with development of jaundice are seen clinically; but the decrease of blood and urine urea due to decreased deaminization, and the increase of uric acid in the blood are not seen in humans.

The important tests for liver function are: (1) Serum bilirubin-Van den Bergh; (2) Bile index; (3) Dye retention-tetrachlorphthalein or bromsulphalein; (4) Bile salts in blood and urine; (5) Coagulation time of blood; (6) Fragility of corpuscles; (7) Bile and its products in urine, stools, and duodenal contents. Their value in practice is: (A) In diagnosis; they tell whether or not the liver is diseased; they reveal jaundice and tell whether it is obstructive or hemolytic; they aid in classifying hepatic disease and are valuable in the differential diagnosis of ascites; (B) In prognosis; they do not compare in value with the kidney function tests; they may foretell the course of the disease in some instances but on the whole are not yet very important in prognosis; (C) In treatment; they reveal the favorable time for operation in jaundice, and tend to individualization in the treatment of hepatic disease.

In relation to bile salts we know very little. Experiments show they are toxic, but if not injected in lethal quantities are rapidly eliminated. Given by mouth they increase the concentration in the portal blood but not in the peripheral blood. In dogs with obstructive jaundice produced experimentally, the dye retention rises and remains high, the bile salts in the blood rise in concentration and then drop to a slightly lower level, which is maintained. A study of several hundred clinical cases shows that there is no direct causal relation between the level of bile salts in the blood and pruritis. There was no positive relation between bradycardia and jaundice, except in the catarrhal form.

Experiments with an apparatus that allows microscopic study of the circulating blood (extra-corporally) have shown that in jaundice the platelets either do not throw out fibrin or throw out fibrin of abnormal quality. In this apparatus normal blood coagulates in 10 or 15 minutes, whereas in jaundice the circulation may continue for several hours without any attempt at coagulation.

Statistics show a relation between cirrhosis of the liver and alcoholism. New York, with a high death rate for both conditions, showed a marked drop in both after the Volstead Act. Kansas, which had local prohibition for many years, had low death rates for both alcoholism and cirrhosis, and showed no drop after the Volstead Act.

Ascites could not be caused in dogs by obstruction of the portal circulation. Animals with continuous obstruction of the biliary system developed ascites and had to be tapped. In these latter, an acute ascites could be precipated by giving the animal a protein meal.

There are several typical pictures in terminal liver disease. The patient may be narcotized, disoriented, hemorrhagic, convulsive, febrile, or uremic. The prophylaxis of liver disease includes: (a) Prevention of infectious diseases—we don't appreciate what general infection may do to the liver; (b) Eradication of foci of infection, e. g., in gall bladder and appendix; (c) Prompt recognition and treatment of toxemia causing hepatic damage; and (d) Care in the use of toxic substances such as alcohol, chloroform, etc., and the industrial hazards, e. g., phosphorus, picric acid, carbon tetrachloride, tetrachlorethane.

The treatment of liver disease is: (A) Specific—use of constitutional specifics (arsphenamine, iodides, emetin, etc.) and "hepatic specifics" (water, glucose, and calcium); (B) Functional—relief of biliary obstruction, relief of ascites and portal obstruction (surgical and medical treatment), of hemolysis (by splenectomy), of congestion (by digitalis, diuretics, restriction of salt and water), and protection from hemorrhage in jaundice (by calcium, transfusion, carbohydrates, water); (C) Symptomatic—relief of pruritis (by calomel, emetin, etc.), relief of gastro-intestinal disturbances by diet and sedatives. It is just as important to

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relieve ascites with jaundice as ascites from nephritis. It is possible to control ascites in cirrhosis if it occurs early, but there are apt to be remissions. The control of hemorrhage is the great problem in hepatic disease at present. Out of 26 cases treated with ammonium chloride and novasurol, 50% died later of hemorrhage from varices in the lower two inches of the oesophagus, and almost invariably through the coronary branch of the portal vein. The situation presents a problem for the surgeon.

The preoperative treatment in obstructive jaundice includes: (1) Prevention of hemorrhage by intravenous calcium chloride and by transfusion, if prolonged coagulation time persists; (2) Daily estimations of plasma icterus (avoid operation with rising jaundice; delay operation with falling jaundice); (3) Anticipation of failure of hepatic function by high carbohydrate diet and omission of proteins; (4) Administration of adequate (but not excessive) fluids—3000-4000 cc. daily.

COMPRESSION FRACTURES OF THE SPINE

BY ROBERT B. OSGOOD, M.D., F.A.C.S.*

John B. and Buckminster Broun Professor of Orthopedic Surgery, Harvard Medical School

COMPRESSION fractures of the spine are more common than is appreciated. They constitute nearly one half of all cases of fractures of the spine. The apparently mild nature of the injuries in these cases is a very important feature. There may be industrial or medico-legal aspects. Early diagnosis is important, both to the patient and to the physician. Compression fractures of the spine are frequently not recognized early and are often treated by unsound methods. We know how to treat them, and if the treatment is properly applied, we can look forward to complete recovery.

The incidence of compression fractures of the spine is not great, when compared to the total number of hospital admissions. Hence, standardization of treatment is difficult. These fractures most commonly result from falls and blows, which in nearly all cases cause a hyperflexion or jack-knifing of the spinal column, with a crushing of the spongy vertebral body or bodies. In the great majority of cases the body of only a single vertebra is crushed. In 70 or 80% of cases it is the 11th or 12th thoracic or the 1st or 2nd lumbar. Men are more commonly affected, but the proportion of women is increasing with the rise in number of automobile accidents.

Signs and symptoms of compression fractures may be so slight as to pass unnoticed or they may be masked by the shock of the accident, pains from bruises, etc., and be overlooked at first. The key to diagnosis is suspicion—suspicion that there may have been hyperflexion of the spine. If such a suspicion exists, one should look for a compression fracture. Lateral as well as antero-posterior X-ray pictures should be taken. The chief early symptoms are pain referred to the back in the region of the lesion, local tenderness, and muscle spasm, which causes limitation of motion. Kummel recognized and described three stages in cases of spine fractures: (1) Stage of initial injury; (2) Period of comparative well-being; (3) Development of angular kyphosis and pain, either localized or neuralgic.

After making the diagnosis one tries to ascertain the extent of the damage, how irreparable it is, and what the chances are of remedy by manipulation or by open attack. Considerations in treatment are the general condition of the patient, the time elapsed since the injury, the nature and extent of neurological signs and symptoms, and the anatomical nature of the lesion itself. If the patient is in severe shock there should be no immediate operation unless it is the only chance of saving his life. If the onset of neurological signs is immediate after the injury there is little hope for recovery; if they come gradually and increasingly, every effort should be made to treat the condition by manipulation or operation. With increasing neurological signs or stationary neurological signs with blood in the spinal fluid, laminectomy may be indicated. If the bladder is affected, care must be taken to avoid cystitis, avoiding catheterization as long as possible. Care should be taken to prevent bed-sores.

Treatment: (1) Crush fractures of the sacrum and coccyx usually heal quickly and easily with little treatment other than adhesive strapping and restriction of activity for a while. (2) Crush fractures of a single vertebrae may be treated by immobilization in complete recumbency for a period of six to eight weeks, followed by gradual return to activity. If the diagnosis is made early and rational treatment instituted, return to normal activity may be expected in four to six months. Immobilization may be in a plaster shell or jacket or on a Wallace spinal bed. Davis's logical method of reduction by hyperextension is promising. (3) Long-standing cases presenting symptoms of disability and pain may require ankylosing operations, if there is no internal fixation by bony ridges. However, it must be remembered that postural correction and not ankylosis is what insures freedom from pain and disability, and it is much easier to do postural correction before than after an operation. In the case of a wage-earner who does heavy lifting, an ankylosing operation following postural correction may be recommended as an additional safeguard, but the physician should give the patient a chance to avoid operation by a change to lighter work.

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ETIOLOGY AND EARLY DIAGNOSIS OF BRONCHIECTASIS AND LUNG ABSCESS

BY DAVID T. SMITH, M.D.*

Bacteriologist and Pathologist, New York State Hospital for Incipient Pulmonary Tuberculosis, Ray Brook

RECENT work has shown that lung abscess and bronchiectasis are caused by anaerobic spiral organisms in combination with other organisms. The spirochetes may be the type that cause Vincent's angina, destroying a part of a bronchus or making a hole in a lung, just as they destroy tissue in a tonsil. Since this is the case, incipient bronchiectasis and lung abscess can be diagnosed by microscopic examination of the sputum and the organism can be destroyed by a few doses of sulpharsphenamine or neoarsphenamine before the lesions have actually progressed to the stage of clinical bronchiectasis or lung abscess.

Spiral organisms from the lungs were described in 1867, but little attention was paid to the discovery at the time. In 1906, Castelani found spirochetes in a case of bloody bronchitis and made drawings of them. Since that time the organisms have been found in all parts of the world. Recent bacteriological work has shown that spirochetes, fusiform bacilli, vibriones, and cocci must all be present to produce the lesions. Any one of the five forms of spirochetes which have been found in the lesions may take part in the combination.

If material from a Vincent's membrane is injected into a guinea pig, an abscess will form. The abscess material, placed in the trachea of a rabbit, will cause bronchiectasis or lung abscess. In one case, what appeared by X-ray to be two cavities was later shown by a lateral view to be three dilated bronchi. In this way, one condition is often mistaken for the other. That either may result from the same material has been demonstrated. Material from a patient with bronchiectasis was injected into a guinea pig; material from the resulting abscess was put into the tracheas of two rabbits. At autopsy the lungs of one of the rabbits showed bronchiectasis, and those of the other showed abscess.

Many patients with bronchiectasis or lung abscess have no Vincent's and have not been exposed to it. Explanation of this is found in the fact that any individual with pyorrhea has spiral organism in his mouth, which experiments have shown to be capable of producing bronchiectasis and lung abscess. Pyorrhea material in the trachea of a guinea pig or rabbit will give abscesses. When the same sort of material is injected after heating, no abscesses result. The spiral organism of pyorrhea may be the cause of post-operative lung abscess. In the case of a child with marked pyorrhea, who came to autopsy following "post-operative pneumonia" and lung abscess, the spirochetes from the abscess fluid could not be distinguished from those taken from the teeth.

Many cases of bronchiectasis or abscess are first diagnosed as post-operative pneumonia, because the spirochetes, in combination with their accompanying organisms, give the picture of pneumonia during the early stages (first 7-8 days) of invasion. After 10 days the similarity to pneumonia disappears. This fact explains the clinical picture sequence of abscess following post-operative pneumonia. True pneumonias rarely cause abscess. Influenza and infections by other organisms do not destroy lung tissue nearly so rapidly as the spirochetes do.

The treatment of these spirochetal infections of the bronchi and lungs is simple—a course of sulpharsphenamine or neoarsphenamine, given in the same dosage as for syphilis. The case of a physician who was treating a patient for Vincent's of the pharynx is typical. The patient coughed into his face; four days later he became acutely ill, with cough and expectoration. The organisms in the sputum were identical with those in his patient's throat. The X-ray showed a beginning process. Sulpharsphenamine treatment was instituted, and in eight days the process had cleared up. Sputum injected into a guinea pig after the sulpharsphenamine treatments only caused localized abscess. No spirochetes could be demonstrated in them and the guinea pig did not die.

A summary of 100 cases of spirochetal lung infections shows that the clinical picture is in general not unlike that of tuberculosis, but may resemble many other conditions, e. g., gangrene of the lungs, lung abscess following tonsillectomy, unresolved pneumonia, bloody bronchitis, etc.

SERUM SICKNESS AND SERUM ACCIDENTS

BY GEORGE M. MACKENZIE, M.D.*

Director of Medical Service, Mary Imogene Basset Hospital, Cooperstown

FOR practical purposes the distinction between serum disease and serum accidents is the difference between the absence and presence of hypersensitivity to horse serum. Serum disease is a clinical phenomenon seen in individuals not previously hypersensitive, while serum accidents are the sudden, often fatal reactions of spontaneously hypersensitive individuals. Not every person who is injected gets serum disease. There is a variation in susceptibility; some races

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are less susceptible than others. Serum from different horses varies in capacity for producing symptoms. The amount of serum injected is an important factor. Few individuals get serum disease from injections of diphtheria antitoxin, while few escape it after injection of serum for pneumonia. Less important factors in serum disease are the age of the patient, the disease for which the serum is given, and the route of injection.

The clinical picture of serum disease is well known—following an incubation period, usually from 6 to 12 days, the syndrome of urticaria with erythema, arthritis, fever, enlargement of lymph nodes and occasionally of the spleen. Edema of the nephritic type of distribution occurs in about one-third of the cases. There may be abdominal pain with vomiting and diarrhea. Leucocytosis is seen in children during the incubation period, but rarely in adults. A few days (or as long as two weeks) after recovery from these symptoms, there is an unexplained rise in temperature. It seems possible that the first reaction is due to the globulin of the serum, and the second due to the albumin. The facts indicate that following the injection of horse serum the body begins the formation of precipitins, and as the titre of the precipitin increases, the horse serum decreases. Individuals capable of producing a high titre of precipitin are apt to have serum disease and a rapid disappearance of horse serum, while in those not sensitive to horse serum the titre of the precipitin is low, there is no reaction, and the horse serum may remain in the circulation for many weeks or months.

Serum accidents are not due to any specific anti-toxin. Horse serum alone is sufficient. There are two groups of individuals who may have serum accidents: (1) Those who are spontaneously hypersensitive—they may show allergic reactions (e. g., "horse asthmatics") or may never have such a reaction and be discovered by skin tests. Heredity is often a factor. Death has occurred from injection one minim of serum, so great care must be taken in handling these people. They may never be able to receive serum treatment. (2) In a second group the hypersensitivity has been produced by previous injection of horse serum. The amount of sensitivity here depends on the quantity of serum previously injected, but artificially sensitized individuals are much less sensitive, as a group, than are the spontaneously hypersensitive. It is estimated that there are alarming symptoms in only 1 out of 30,000 cases, and death in 1 out of 50,000.

The prevention of serum accidents depends on: (1) identification of the hypersensitive; and (2) development of desensitization. One should never inject without a skin test. Any test with pseudopods is to be considered moderately or strongly positive. Experimentally, animals have been sensitized and the lethal dose of serum ascertained. When less than the lethal dose was given the animals became desensitized. Clinically, desensitization can be obtained in some cases by the injection of ½ to 1 cc. of serum, but generally there is not the rapidity or certainty that there is with animals. Man is much less easily sensitized than animals and is much less easily desensitized.

The method of desensitization is to start with a very small amount of serum given subcutaneously. If it is not tolerated, a smaller dose should be tried. After a dose is given without any reaction resulting, gradually increasing doses are given at intervals of 20 to 30 minutes until one cc. has been given. Then intravenous injections are started. A good rule is to have the first intravenous dose not more than one-tenth the size of the last subcutaneous dose. A fairly safe program for injections is to give successive doses of .025 cc., .05 cc., .1 cc., .4 cc., .8 cc., 1.0 cc. subcutaneously at half-hour intervals; then intravenously, .1 cc., .2 cc., .4 cc., 1.0 cc., 2.0 cc., 4.0 cc., 8.0 cc., and 16.0 cc. Serum should never be injected without having adrenalin at hand. Deaths from attempted desensitization have been reported. There may be a few cases that cannot be desensitized by any method, but the great majority of hypersensitive individuals can probably be desensitized.

VARICOSE VEINS AND VARICOSE ULCERS

BY JOHN HOMANS, M.D., F.A.C.S.*

Assistant Professor of Surgery, Harvard Medical School, and Surgeon to the Peter Bent Brigham Hospital

THE operative treatment of varicose veins and ulcers has had a bad name with both the laity and the medical profession for many years, so too much time has been put on mechanical short-cuts aimed at cure, and not enough attention paid to the anatomy of the condition.

The two systems of veins in the leg (superficial and deep) are connected by communicating veins, which have valves permitting blood to flow only from the superficial to the deep system. But for this communication, the superficial veins, lacking the support and aid of the deep veins carry the great proportion of the blood. As it is, varicose veins occur in the superficial system when valves in the communicating veins break down.

When there are varicose veins the blood comes down into the superficial system from the saphenous vein; but as long as the deep veins function properly and carry their extra load, there are no symptoms except local trouble on the surface due to bad drainage. Nevertheless,

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removal of varicose veins can never do anything but good to the patient. Varicose veins are not always recognized. Diagnosis may be made by palpation of a lump in the groin over the saphenous opening, or by the Trendelenberg test.

Treatment of varicose veins by local operation on the leg veins is bound to fail. If anything at all is done, it should be the radical operation. If the varicose veins are to be removed, the important part of the treatment is the removal of the superficial system's connections at the saphenous opening, including all possible communicating branches from the femoral vein. Recurrences often result from failure to eliminate these branches; they should all be taken off within one-half inch from the femoral vein, with only a cuff remaining below the ligature. If only a partial operation can be done, this is the part that should be done. In the radical operation the superficial veins are then stripped down, by turning back flaps and dissecting the veins away from the under sides. Since operations for varicose veins are performed on tissues with a low level of resistance, sepsis must be guarded against. A separate set of instruments should be used for each incision. The peculiar arterial supply to the parts superior to the deep fascia must be borne in mind in cutting the flaps.

Except for cosmetic reasons, it is seldom necessary to operate on varicose veins unless ulceration is present or threatened. Ulcers arising from varicose veins are automatically cured by removal of the veins, unless there are some other causes of ulceration in addition to back pressure. In such a case there is a different problem, and the ulcer should be removed radically, just as a tumor is, then skin grafts employed if necessary. The key to success in the grafting is to remove the deep fascia with skin, since its poor blood supply will not supply a graft. Large ulcers of the ring type can be treated the same as the less severe type, but may have to be incised in a series of sittings.

Palliative measures may be employed for varicose veins and ulcers. Ordinary bandaging can be made very effective; e. g., by compressing a lake of stagnant blood above an ulcer. The method of obliterating veins by injecting sodium salicylate, mercury salts, etc., is open to criticism. In the first place, it is only palliative. The vessels in the calf may be obliterated, but it is impossible to reach the veins in the thigh. Furthermore, if the strong solutions escape into the surrounding tissues there is danger of sloughing. The recent furore of enthusiasm over this method of treatment seems to be the result of an effort to dodge the radical treatment.

Thrombosis in varicose veins is very common and quite disabling. The speaker has always treated thrombosis by the radical operation. Infection may delay operation for a week or two. If it is necessary to make an incision past the knee, a series of transverse incisions should be made and the vein shut off at different points.

Many physicians feel that the field of varicose vein operations is forbidden ground. They fear embolism. There is no need to fear it, as it only results from poor technique. The mortality in the radical operation for varicose veins is only around that of pelvic operations.

GLAUCOMA

BY GEORGE S. DERBY, M.D., F.A.C.S.*

Professor of Ophthalmology, Harvard Medical School

THE general practitioner should be conversant with the subject of glaucoma. It causes from 1/4 to 1/3 of the blindness in people past middle age. It is not the acute congestive variety of glaucoma, but the chronic simple variety, a coming on without any warning, which is dangerous. The former gives symptoms at once, and is readily recognized, but the chronic simple type is not easily recognized until the disease has progressed to an alarming extent.

Glaucoma is an increase in pressure within the eyeball, due to obstruction of the fluid which constantly enters the eyeball through the ciliary process. Ordinarily this fluid passes out by two channels, a small part going along the optic nerve and the great proportion of it passing forward into the anterior chamber, out through the pectinate ligament into Schlemm's canal, and from the latter by communicating veins, which carry it to the conjunctiva.

In glaucoma we find two things: (1) The anterior drainage region is blocked, by the iris becoming adherent to the posterior surface of the cornea; (2) Cupping of the optic nerve head is the other constant change. The fibres are stretched, with a certain amount of damage. The ophthalmoscopic picture shows the vessels disappearing over the edge of the cup and reappearing in the base. The bottom of the cup often has a greenish appearance.

Formerly, increase in intraocular pressure could only be estimated by pressing on the cornea with the finger. Now it can be measured accurately by the tonometer, which has done much to put the study of glaucoma on a scientific basis. The normal pressure may vary between 12 and 25 mm. of mercury, being different for different eyes and varying slightly from time to time, but definite increases in glaucoma can be ascertained.

The ophthalmoscope and tonometer are very useful in diagnosing glaucoma, but the most important examination is that of the visual fields.

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It shows two characteristic changes in the early stages of glaucoma: (1) a scotoma, extending out from the blind spot and following the course of the arcuate fibres; and (2) the so-called "nasal step", best shown on a tangent screen at a distance of one meter.

The insidious nature of chronic glaucoma is due to the fact that central vision is retained till the final stages of the disease. The patient retains visual acuity over a small area and is able to read, and either does not notice or does not pay much attention to his failing peripheral vision.

The treatment of glaucoma is both medical and surgical. In the medical treatment myotics are used—applied several times a day perhaps—to relieve the intra-ocular pressure. In most cases it is unwise to use a myotic, because the tension is apt to increase in spite of its use. In the case of a patient who has not long to live, this treatment may be justified. The success of the surgical treatment depends on getting the condition in the early stages, before there are pathological changes in the retina. In Elliott's operation a flap of conjunctiva is reflected down on the cornea, a 2 mm. trephine applied at the junction of sclera and cornea, and a disk of sclera and a piece of iris removed. This type of procedure gives good results; 75 to 80% of trephine operations are apt to be successful if done early. Other decompression operations are worthy of note.

COLON IRRIGATIONS

BY WALTER A. BASTEDO, M.D.*

Attending Physician, St. Luke's Hospital, New York

THE insertion of liquids into the rectum has been an approved therapeutic procedure since ancient times. Whereas the object of the ordinary cleansing enema is to produce defecation, the object of a colon irrigation is to get at something higher up than the defecation area of the left colon. To be successful an irrigation must be given after the bowels have moved. If they have not moved they should be cleaned by an enema and the defecation reflexes given a little time to quiet down, before starting irrigation. The liquid should be about body temperature and passed into the colon gently so that it does not excite the defecation reflexes.

Of the two common methods of irrigation (single tube and double tube) the double tube method is preferred. For the inflow a 24 French catheter is inserted 5 or 6 inches, and for the outflow a closed end rectal tube, 30 French, is inserted about 3 or 4 inches. Irritation of the rectum may be allayed by a suppository containing ½ grain codeine and 1/100 grain atropine sulphate, inserted an hour before the irrigation. It has been repeatedly demonstrated by the X-ray that in almost every case a tube inserted beyond 6 inches merely coils up in the rectal ampulla. Therefore the terms "low irrigation" and "high irrigation" are fallacious and meaningless. As a matter of fact, providing the defecation reflexes are not set up, liquid from a tube inserted only two or three inches will pass to the caecum in two or three minutes.

From five to nine gallons of plain water are used for an irrigation, with the patient on his left side for the first gallon and on his back for the remainder. The reservoir bag is hung low so as to give about 1½ feet of pressure and the water run in very slowly, taking about an hour. Large quantities of water are necessary to lavage the colon till it is clean and to loosen tenacious mucus. Often, after several gallons of water have been used, the ileocolic sphincter relaxes, letting down putrefying material from the lower end of the small intestine, which is often a site of bad infection. That mucous colitis is not strictly a colon disease is inferred from the fact that a patient with his colon completely removed has had all the symptoms of mucous colitis, passing mucous strings 18 inches long. A brisk cathartic may be necessary following irrigation, to aid in dislodging and passing the loosened mucus.

As a routine irrigation fluid plain water, rather than saline or soda, is the best. With the exception of a few substances that have specific affinities for certain organisms, e. g., acriflavin, gentian violet, etc., antiseptics are not used in irrigations. Experiments have shown that the strongest antiseptics permissible in the bowel do not kill the bacteria and are prone to be injurious to the host. Irritating substances like hydrogen peroxide, silver nitrate, and potassium permanganate are especially to be avoided in mucous colitis. Colic during an irrigation may be associated with the loosening of mucous, with large amounts of gas, or with an irritable colon.

For ordinary mucous colitis irrigation is given two or three times in the first week, then every five days, than once a week. Irrigations are used more often only in acute cases of other types. Since the membrane of the bowel has the function of secreting mucus, the mere return of mucus, reported by a nurse, does not justify repetition of the process. The method of colon irrigations is not to be condemned because it is overused and exploited by certain individuals; rather physicians are to be condemned who order frequent irrigations, never examine the return, and base their subsequent treatment of the patient on a nurse's report. Irrigation is of definite value in mucous colitis. It has relieved many cases not remedied by any other treatment.

For the convenience of patients out of reach

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of a nurse competent in irrigation, the following directions for a small self-given irrigation are given:

Use plain water—warm.
Use ordinary enema bag with ordinary rectal nozzle.
Hang bag low so that the water pressure is about 1½ feet.
Lie on back.
Let water run slowly into rectum till it feels filled up, then go to toilet.
Repeat the process once.

Such slowly given enemas of plain water often bring out large quantities of tenacious mucus. They should be given one or two hours after the morning bowel movement.

Untoward symptoms during irrigation—nausea, distention, cramps, and anal irritation—are generally easily controlled. The most common mishap is bleeding from the rectum, usually from hemorrhoids, but sometimes from a fissure or ulcer, or from direct trauma due to a stiff tube with the hole in the end.

Other uses for colon irrigations are: (1) To clean out the bowel in acute food poisoning, acute dysentery, or acute septic conditions of the bowel; (2) With hot liquids to allay pain in biliary, renal, and mucous colic, pain in the urinary bladder or ureter, and in tuberculous peritonitis; (3) With cold liquids in febrile states. The liquid is medicated in (a) Amebic colitis—quinine bisulphate or fluid extract of ipecac, (b) Dysentery—1/4000 acriflavin or 1/4000 gentian violet, and occasionally 1/10,000 potassium permanganate of 1/8000 silver nitrate, (c) Inflammatory conditions—a demulcent such as starch water or an astringent such as 1% tannic acid.

MODERN SURGICAL TREATMENT OF TRIGEMINAL NEURALGIA

BY BYRON STOOKEY, M.D., F.A.C.S.*

Assistant Professor of Neurology and Neurological Surgery, Columbia University

IN trigeminal neuralgia there are no organic signs—the diagnosis is based solely and completely on the story of the patient. The pathology remains as unknown as it was to the ancient Arabians, but the diagnosis and treatment have advanced markedly. The definite term "trigeminal neuralgia" is unfortunate. It crystallizes the condition as an entity, when as a matter of fact the term means nothing definite to either physician or patient. Generally speaking, it means pain in the face. Out of this big group certain definite entities have come to be recognized:

(1) Major trigeminal neuralgia of the typical kind has a distinct syndrome.
(2) Geniculate ganglion neuralgia is extremely rare, characterized by a herpetic eruption in the external auditory meatus, followed by pain in and about the ear.
(3) Neuralgia of the glosso-pharyngeal nerve has been studied only recently (Weisenberg); 26 cases are on record. The pain is about the base of the tongue and the pillars of the tonsils.
(4) Spheno-palatine ganglion neuralgia (Sluder's Syndrome) is characterized by lower half headaches, pain down the neck and shoulder, sometimes bilateral. The pain is sometimes relieved by cocain in the middle and lower turbinates or may be temporarily relieved by injecting alcohol into the ganglion.
(5) Pain referable to one of the other divisions of the fifth nerve may be caused by localized inflammatory processes in masseter or temporal muscles. These pains, like those due to myositis in other parts of the body, are relieved by baking and massage.

There are other conditions causing pain in the face, but with a definite organic basis: (1) Cerebello-pontine angle tumors are diagnosed on thorough neurological examination; in every trigeminal case, angle tumors should be ruled out. (2) Certain systemic diseases (e. g., diabetes) may give head pains. (3) True trigeminal neuritis may be produced by infections of teeth or tonsils, but in these cases the symptoms are continuous. Teeth and sinuses are probably never the cause of true trigeminal neuralgia.

Major trigeminal neuralgia has certain definite characteristics; (a) The pain is always unilateral, always in the distribution of the trigeminal area, and always referred to the peripheral distribution; (b) The pain comes in attacks—though late in the disease it may become constant—and is not relieved by drugs; (c) The pain is made worse by certain peripheral stimuli, e. g., cold, shaving, etc. (d) The actions and facial contortions of a patient in an attack are typical.

There is a relatively large group of patients who complain of facial pain not typical of the above syndrome. The pain is constant, boring, bilateral, and may be referred to a tooth. These atypical neuralgias are worthy of study. Many patients with so-called "psychogenic pains" should be turned over to a neurologist for examination.

The treatment of major trigeminal neuralgia has changed a great deal. Peripheral section was not successful because the pain invariably returned. Complete removal of the gasserian

*For record and address of author see "This Week's Issue," page 903.

ganglion was dangerous to the eye and attended by a mortality of 14%. Then alcohol injections of the ganglion were tried. They gave much relief, and the treatment enjoyed a great vogue. However, in recent years, since Spiller and Fraser suggested a physiological extirpation of the gasserian ganglion by cutting the dorsal root of the fifth nerve, this operation has been perfected and has proved highly successful. Venous bleeding is avoided, the frequency of trophic disturbances to the eye materially lessened, and the death rate reduced to less than 1%.

In the dorsal root operation, what is called differential section is now done, i. e., only the sensory fibres from the area to which the pain is referred are cut. The motor division of the nerve is saved. Thus, there is only a limited area of loss of sensation, and the muscles of mastication are not paralyzed. Cutting of the desired part of the root, rather than evulsion, is recommended, since the whole dorsal root may be torn out by the latter procedure.

The operation is not a disfiguring one. Its results are such that one should not resort to any other method of treatment for trigeminal neuralgia. Spontaneous cure never occurs, alcoholic injections of the gasserian ganglion are very dangerous, and injections of the nerve are only palliative. The latter procedure should be used when the diagnosis is doubtful, but not when the diagnosis is certain, since the patient will come to operation eventually.

SHOULDER PAIN

BY MATHER CLEVELAND, M.D., F.A.C.S.*

Attending Surgeon, New York Orthopedic Hospital

A CONCEPTION of the anatomy and physiology of the shoulder joint is essential for an understanding of the causes of shoulder pain. The joint is of the enarthrodial or ball and socket type, and accommodated in the glenoid fossa. The capsule of the joint is loose, but is reinforced by the ligaments, which supplement the socket. The importance of the musculature in bracing the joint is demonstrated by the sagging of the humerus which takes place when certain groups of muscles—especially the deltoid and suprascapular—are paralyzed. The long head of the biceps, by virtue of its situation, acts to keep the head of the humerus from displacement up or down.

The shoulder joint contrasts sharply with the hip joint in the matter of mobility vs. stability. In the shoulder girdle, the shallow socket and the movability of scapula and clavicle give wide range of motion at the expense of stability. The hip joint, with its deep socket and the pelvic girdle solidly attached to the spine at the sacroiliac joint, is just the reverse.

A knowledge of the bursae of the shoulder joint is important, since bursitis is one of the common causes of shoulder pain. A bursa is primarily a shock absorber. The subacromial or subdeltoid bursa is the most constant in the shoulder. In adduction it rolls up under the acromium. The subcoracoid and subscapular bursae may also be involved in conditions of shoulder pain.

The innervation of the shoulder region should be kept in mind, because of the important relation to referred pain. Extra-shoulder lesions that may cause pain are:—

(1) Lesions that may send stimuli via the phrenic nerve, (which is derived mainly from the 3rd and 4th cervical nerves) e. g., from pleural, mediastinal, and abdominal lesions, or even from a ruptured ectopic pregnancy;

(2) Conditions of a neurological nature involving the 5th and 6th cervical nerves, e. g., cervical Pott's disease, intradural tumor, and cervical spine.

Pain originating in the shoulder itself may be due to:

(1) Trauma—due to its great mobility and dependence on muscle tone, the shoulder is more frequently dislocated than any other joint;

(2) Fracture of the anatomical neck of the humerus, which is common and should be suspected in any patient past middle age with a fracture of the upper end of the humerus;

(3) Subdeltoid bursitis, which may result from initial trauma or from exposure to cold. It is characterized by pain on adduction, as the bursa rolls under the acromium;

(4) Neuritis of the shoulder joint, due to involvement of the 5th and 6th cervical nerves;

(5) Myositis, which may follow trauma;

(6) Specific chronic infections—tuberculosis may involve the shoulder joint, with pain, spasm, atrophy, and eventual erosion. The incidence is small, however. Weight-bearing joints are the ones involved, generally.

(7) Osteomyelitis of the humerus;

(8) Arthritis—the cause of pain in a large proportion of the patients. A few of them are helped, but most are not.

In diagnosing the cause of shoulder pain, it must be remembered that a negative X-ray is of little value in ruling out lesions of the soft parts. In treating bursitis, foci of infection should be given attention; symptomatic treatment rather than operation is recommended.

*For record and address of author see "This Week's Issue," page 903.

STERILITY AND INFERTILITY—CAUSES AND TREATMENT

BY I. C. RUBIN, M.D., F.A.C.S.*

Associate Attending Gynecologist, Mt. Sinai and Beth Israel Hospitals, New York City

STERILITY involves the mating of two individuals in a fruitless marriage, so in considering the causes of sterility it is necessary first to dismiss the possibility of the male being a contributing factor. Here it is often necessary to depend on the genito-urinary men for aid, for one-third of sterile males are so because of gonococcus infections.

In considering the woman, a size-up of the general constitutional condition comes first. Previous infectious diseases and diseases of malnutrition in childhood are often reflected in menstrual disorders. Other things to be considered in taking the history are prolonged engagements and late marriages, dietary deficiencies in either mate (especially in the male) and profound psychic shock, which is especially important in females.

Mechanical causes in the female are of an obstructive nature, such as scars, burns, and tumors; or minor local causes such as vaginal stenosis, shallow vaginal fornices, and deviation of the cervix, may be very important. Nonpatent tubes are present in at least one-third of the cases—in 39.8% of 2000 cases. Infantile characteristics, such as pin-point os, may be causes of sterility.

Among the causes of sterility in males there are a few anatomical abnormalities like hypospadias, but in the vast majority of males who are responsible there is not mechanical but general impotence. Psychic impotence is almost as hard to overcome as if a real blocking of the vas by an infectious process were present.

After considering the possible causes of sterility, one should instruct the woman to appear an hour or two after normal intercourse. The presence of a sufficient number of motile sperm in the cervix is convincing proof that the male is potent and the vaginal and cervical secretions are favorable. The next thing is to see if conditions are favorable for the ascent of the sperm. The final step is to ascertain the condition of the ovaries.

The treatment in sterility should be started early; not more than six months should be allowed to elapse without inquiring into the cause. Bad habits may be corrected before being firmly rooted, by advice and instruction. The therapy in females includes restoration of anatomical relations by surgery or by mechanical devices, combating inimical vaginal and cervical secretions, stimulation of ovarian function, and tubal insufflation.

Disturbances of ovarian function are now adequately met by small, fractional doses of X-ray therapy. Striking results are obtained in the obese type of woman with secondary male characteristics and infrequent and scanty menstruation. These women, untreated, have about one chance in thirty of becoming pregnant, but X-ray therapy restores normal menstruation and raises the percentage conceiving to 50% or better.

Tubal insufflation of carbon dioxide gas has many advantages over lipiodol injection and none of the untoward results. The Rubin apparatus gives a slow injection of small measured amounts of the gas (40-120 cc.) and a permanent accurate record of the pressure changes. The chymographic record gives typical curves for normal tubes and for those in which there is obstruction, adhesion, or spasm. The localization of pain during insufflation of an obstructed tube indicates whether the blocking is at the tubo-uterine end, the fimbriated end, or between. Figures on 2000 cases show the therapeutic value of insufflation. In 152 women conception took place within six months after treatment. No other therapeutic measures were used in these cases. Of the 152, 98 became pregnant within the first two months after insufflation. Many had been sterile for long periods of time, some for over five years.

*For record and address of author see "This Week's Issue," page 903.

THE NEW HAMPSHIRE MEDICAL SOCIETY

TOXIC HEPATITIS WITH SPLENOMEGALY FOLLOWING PREGNANCY*

BY JOHN POLLARD BOWLER, M.D., F.A.C.S.† AND ROLF C. SYVERTSEN, M.D.†

THIS case is presented because of the suggestion of a relationship between a toxemia of pregnancy and splenomegaly.

The patient, a woman now thirty years of age, was admitted to St. Elizabeth's Hospital, Utica, N. Y., September 27, 1925, because of impending confinement apparently complicated with toxemia. At that time her family history was recorded as negative, except for kidney trouble in her mother, and showed no familial jaundice or splenic disease. Her history showed tonsillitis and chorea as a child; scarlet fever at 7; tonsillectomy at 8; typhoid at 13; influenza in 1918 at 20; with occasional sore throat and laryngitis since. She had been married in 1922 with a two and one-half months miscarriage in 1924, one and one-half years previous to her admission in this case.

Ten days previous to admission she became increasingly uncomfortable with rising blood pressure and albumbinuria. Three days before, persistent crampy abdominal pains developed, with gradual suppression of urine, depressed fetal movements, disturbance of vision, and edema of the lower extremities. Examination showed a blood pressure of 145, 4+ albumin in urine, no fetal movements, cervix soft and closed, ankles swollen. Diagnosis of pre-eclamptic toxemia was made and labor induced by packing. On the second day the patient was delivered of a full term child. Convalescence was gradual and uneventful except for tympanites. Urine became normal in amount and the albumin was reduced almost completely with an occasional trace of sugar and hyaline cost. Visual symptoms disappeared after several days.

Two weeks later, however, fluid was detected in the abdomen, which increased rapidly. In ten days paracentesis gave 10 quarts of clear, straw colored fluid. Four days later a left basal pneumonia developed with, eventually, a very painful pleuritic rub. Recovery was uneventful except for the continued acites which was tapped three times up to November 8, when she was discharged with chest clear, although there was still a slight afternoon temperature. The abdomen was tapped at intervals of approximately two weeks until December 18, when 10 quarts of fluid were withdrawn.

For the record up to this point we are indebted to Dr. P. L. Turner of Utica, New York.

On April 27, 1926 the patient appeared on the medical service of the Hitchcock Hospital at Hanover, New Hampshire, and complained of swelling abdomen and gaseous indigestion. Examination showed muddy sclera, skin slightly tinted yellow, with pale mucous membranes. There were several infected, dead teeth and small, buried, septic tonsils. Liver was papable two fingers below R.C.M. and spleen one finger below L.C.M. Abdomen showed general visceroptosis and slight movable dullness. Blood picture indicated secondary anemia but with normal urea N and sugar, and negative Wassermann. Test meal gave free HCl of 5 and a total 42. Several teeth were removed and with an abdominal support, low fat diet, and dilute hydrochloric acid considerable improvement was manifest.

One year later, however, in April 1927, the symptoms of the hepato-splenic syndrome were more marked with petechial hemorrhages and increased weakness. There had been no improvement in the blood picture and the skin now showed a slight suggestion of bronzing.

In July 1927 the patient developed an acute tonsillitis, but made a prompt recovery. At examination then the spleen was found considerably increased in size, the red count 2,600,000 and the white count 6,200 with hemoglobin down to 50%. The smear showed a few poikilocytes, polys 72%, lymphocytes 26% and eosinophiles 2% with a coagulation time of two and one-half minutes. A slight hoarseness with cough continued with a degree of fever occasionally. The larynx was not inflamed and chest was negative. On August first tonsillectomy on the right side was attended by considerable bleeding which was controlled by ligatures. The patient was discharged the following day to return later for removal of the other tonsil. Four days later bleeding recurred and the patient was returned to the hospital. Bleeding was checked and showed no recurrence during two days, after which the patient was again discharged.

Her condition remained unchanged for a short time but in September she vomited blood, presumably from gastric or oesophageal varices, and the abdominal discomfort and hoarseness increased. In October she began to experience feverish periods of more severity which were accompanied by diarrhoea. These were further complicated in November by a more definite jaundice with urobilin in considerable amounts and a red count still 2,600,000. In December another severe hemorrhage occurred. On January 27, 1928 examination showed a possible further increase in the spleen. On February 2d she vomited over a pint of bloody fluid and the hemoglobin fell to 45%. The spleen seemed somewhat smaller after this last hemorrhage. The advancing anemia and repeated hemorhages had exsanguinated the patient until she had the facies of one seriously ill.

A summative study of the case showed a very definite progression along the line of the Banti syndrome except for the inception period where the hepatic toxemia held apparent primacy. The more recent events, certainly, seemed to conform. This being the case the question of splenectomy arose, and for a period of three weeks the patient was very carefully guarded to prevent further hemorrhages.

On February 16, 1928 the patient was seen by Dr. George R. Minot whose findings were in harmony and who agreed in the advisability of splenectomy. On that date the blood count was red 3,130,000 and white 7300 with 45% hemoglobin, 76.6% polys, 2.6% eosinophiles, 0.2% basophiles, 14.8% lymphocytes, 5.4% monocytes with but 0.4% of atypical marrow cells. The platelets were reduced to the lower normal limits. There was neither fluid in the abdomen nor edema.

On March 6th splenectomy was performed by Dr. Bowler whose surgical report follows:

Pre-operative diagnosis—Splenomegaly; secondary anemia.

7″ left rectus incision. Spleen smooth, normal color, enlarged three times normal size, lobulated. Adherent at upper pole to diaphragm. Spleen freed, raised with packs, pedicle clamped and tied. No adhesions to stomach. Moderate bleeding at diaphragm bed.—controlled with hot packs. Double gauze hemostatic strip placed in cavity below diaphragm and brought out through stab wound in left flank. Original wound closed without drainage.

*Read before the New Hampshire Medical Society in Manchester, May 16, 1928.

†For record and address of author see "This Week's Issue," page 903.

Operation followed by 500 cc. transfusion—group 2—The convalescence was uneventful, with the pack started on the fourth day and removal completed on the seventh day.

The pathological report made by Dr. H. N. Kingsford follows: Gross Examination: Specimen consists of spleen, weight 665 grm. Large spleen, size of a large hand and twice as thick, showing large area of adhesion, size of silver dollar at upper end, where it was fixed to the diaphragm. On the inferolateral border is an area size of half dollar where the capsule had been stripped off. On the medial border several clefts, form three lobes, on the lateral border there is one cleft. Capsule is thick, and the surface appears finely nodular. Under surface shows a depression caused by the adjacent greater curvature of the stomach. The vessels enter by several branches into the different lobes. A striking thing about this spleen is its firmness; the capsule seems stretched from inside pressure.

Microscopic Examination: ZN Sections show a reticular hyperplasia which is very marked. The malpighian bodies are well outlined although rather small. Sections from the area adherent to the diaphragm show a few collateral blood channels. This spleen does not shrink when cut into, there is no thrombosis of the main splenic vein.

Pathological Diagnosis: Interstitial Splenitis. Banti's disease.

The average adult spleen approximates 12 x 7 x 3 cm. in dimension and weighs 200 grams. The Malpighian nodule is large and distinct but merges with the pulp peripherally. A fine reticulo-endothelial type of framework supports the pulp and nodule. This is usually so delicate that it appears like nothing more than the walls of the vascular sinuses. (Lantern sldes shown here.)

The present condition of the patient is best and most simply portrayed by the blood picture. On March 26 three weeks after the splenectomy the red count was 3,640,000. Five weeks later, on May 10, the red count was 4,760,000 and the general improvement was parallel with this.

SUMMARY: This case began, apparently, in the late summer of 1925 with the toxemia which complicated the pregnancy. The symptoms of the toxemia, which were typical but not severe, disappeared at about the usual rate. The signs of damage, however, occurred soon enough to suggest extensive involvement, and consequent foreshortening of the ordinary Banti picture. The progression involved earlier ascites than usual but otherwise conformed to the rather indefinite series of symptoms which would make it typical of that syndrome group. The splenomegaly, the secondary anemia, pronounced but not radical; the cythemolitic icterus and weakness; the successive gastric or oesophageal hemorrhages, the digestive disturbance with diarrhoea; the continued variable fever, the slight continued albumin and gradual appearance of urobilin; the liver enlargement; are all part of the scene and occupy the stage at various times. Finally the more frequent hematemesis, the gradual loss of reds and increase in skin pigmentation which parallel the splenic enlargement complete the evidence.

In considering the type of case classified as Banti's it is usually assumed that the splenic lesion is primary and that the liver involvement comes as a result of the dyscrasia of the splenic venous blood and is distinctly secondary. But Banti himself in his later work assumed that the trouble actually began with a blood borne toxic or toxinogenic agent which in this case may have caused damage to the liver coincidental with the damage to the spleen. Or it may have been that here, too, the splenic enlargement though slower did come first and that the adhesion prevented its discovery until that of the liver had also become apparent. It is quite clear in this case, as in almost every case which involves splenomegaly, that any increase in the mass of the spleen includes an increase in its power to destroy reds and that hemolysis and anemia are directly proportional to the enlargement.

In an analysis of 413 splenic syndromes in which splenectomies were performed at the Mayo Clinic between 1904 and 1925 Dr. William J. Mayo presents a clinical classification in which, in almost one-half of the cases, the cause of splenomegaly was indicated as due to infection and toxic or toxinogenic agents. This case is offered as one similar, in which the toxic agent involved may have been that of the toxemia of pregnancy.

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DISCUSSION

DR. FRED E. CLOW, Wolfeboro: The striking feature of the essay is the thorough manner in which the case reported has been investigated. This would not have been possible ten years ago anywhere in the state of New Hampshire and it simply bears out the statements regarding the changes in the country practice of today.

Dr. Bowler is to be congratulated on his graphic presentation of an unusual type of case, and one regarding which we can at best only speculate. The splenomegalies are, beyond the facts of the infectious granulomas, Hodgkins, Banti's and Gaucher's diseases practically an unexplored territory. The relation of the spleen to the liver, and to the blood is not clearly understood. The progress we have made in the last ten years in our knowledge of the spleen has been made at the Mayo Clinic where a serious attempt has been made to establish the facts in the physiology and pathology of this organ. Ordinarily the part it plays in pregnancy is a minor one. Its only change is a moderate degree of hypertrophy due to quantitative changes in the blood. Autopsy records in cases of death from toxic pregnancy make no mention, as a rule of any splenic change. This organ is one of the few that has not at one time or another been implicated in the attempt to find the cause of the toxins of pregnancy.

The liver is often the organ that shows the greatest inefficiency and the most severe pathological change ranging from simple cloudy swelling to hemorrhagic necrosis. It is doubtless involved in all cases of eclampsia, either primarily or as secondary to the renal damage.

In the description of the case under consideration the blood pictures are most interesting and most significant of the splenic factor in morphological changes. This is strikingly shown not only in the blood changes during the progress of the disease but in the entirely new cystology during convalescence from splenectomy.

Clinically these toxic states are of the greatest of importance. Their prompt recognition and treatment is of the greatest moment to the patient.

While recovery is the rule except in the severest degrees of hepatic damage, no one can estimate the amount of permanent change which has been left, and which may later produce symptoms of profound disease. I know that some of these women, certainly of the nephritic type are showing severe degeneration at a period in life earlier than the general run of women do. A thorough study of this subject should be made to determine whether there are permanent after-effects of toxic pregnancy. If the future health of certain women is to jeopardize through their constitutional failure to react to the strain of pregnancy in a fairly normal manner, the indication for the interruption of pregnancy may require fresh study.

Dr. Benjamin P. Burpee, Manchester: This is a very difficult case to discuss except insofar as one theorizes because it is so unusual. One often sees various results in the different organs of the toxemias of pregnancy but personally I have never seen a case similar to this following pregnancy. We know really very little about the toxemia of pregnancy except that it may affect the organism in a great many different ways. DeLee, in his most recent editing of the Year Book, deplores the fact that our knowledge of the toxemias of pregnancy is at present in such a chaotic state, and states that it is difficult to tell what to believe and what not to. The toxin of pregnancy affects chiefly the liver and the kidney, and causes a toxicosis affecting the blood and the blood forming organs. There is very little evidence that the toxin of pregnancy causes primarily any pathology in the spleen. 15% of the simple anemias of pregnancy may, however, give an enlarged spleen. It may be that there is a similarity in the etiology of a simple anemia of pregnancy and a splenic anemia of Banti's type. We do not know the real cause of Banti's, not even whether or not it is an entity or simply a fairly constant symptom complex. Bell has shown by postmortem examinations that the toxemias of pregnancy may produce a varied number of pathological lesions in one organ, namely the liver. If this be so, it is not unreasonable to suppose that it may produce lesions in other organs of which we as yet know but little.

We do know that pregnancy is a condition that is very apt to stir up any dormant pathology in the patient, be it appendix, gall bladder, or what not. It is quite possible then that it might stir up or hasten along other conditions such as Banti's. It would seem to me more likely that in this case the splenic anemia was primary rather than the actual effect of the toxemia of pregnancy and that this splenic anemia was lighted up or hastened along by the pregnancy. It is possible that this toxin of pregnancy added to a toxin or splenotoxin already present caused the syndrome known as Banti's to appear shortly after child birth. The toxin causing Banti's is probably hematogenous rather than hepatogenous and that of pregnancy probably hepatogenous. Two weeks seem a short time for the patient to reach the ascitic stage of Banti's if the toxin of pregnancy were the chief etiological factor. It would be possible that some infection from the teeth or tonsils might have been the cause.

Dr. Rolf C. Syvertsen, Hanover (closing): There is nothing that I have to add except possibly that if we had known more about this earlier miscarriage, there may have been a history of a similar toxemia earlier which may have initiated this syndrome.

There was one point I didn't elaborate upon, and that was the falling away of the size of the spleen after the last severe hemorrhage. Dr. George R. Minot pointed that out and quoted Dr. Haldane as saying that the spleen is a reservoir of red blood cells ready to supply any deficiency in the number of red cells in the circulating blood and hence withdrawal of blood might produce at any time a radical reduction in the size of the spleen.

PELVIC OUTLET CONTRACTION IN PREGNANCY*

BY CLEON W. COLBY, M.D.†

IN gathering material for the technical description concerning various types of outlet contraction I have consulted the works of DeLee, Williams, Dorman, Shears and Newell. The case which I am reporting is, of course, my own.

This case under discussion presented a normal pelvis above the outlet, and for this reason no attempt will be made to cover pelvic contractions occurring elsewhere.

When the pelvic canal converges from the

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above downward, instead of from below upward, the pelvis is said to be funnel shaped. Williams has called attention to the fact that the outlet contraction is often found in cases where all other measurements are normal, and he believes that this is due not to a persistence of the masculine or infantile type, but to assimilation of the last dorsal vertebrae to the sacrum.

These cases have been overlooked in the past because so many have been content with taking the external measurements and, perhaps the internal conjugate, and have paid no attention to the outlet diameters.

No discussion of the pelvis in relation to the necessity of operative delivery would be complete without including the more uncommon pelvic deformities due to abnormalities outside the pelvis or to abnormalities of development.

These deformities are due to abnormalities in the development of certain of the pelvic bones, or else they are produced by disease in other portions of the skeleton, as for instance in the spinal column or hip-joint, which bring about changes in the pelvis owing to a faulty transmission of the body weight. The majority of patients who show this deformity have some peculiarity of gait or figure which should attract the attention of the most careless observer.

Spinal caries in the lumbar region produces a marked funnel pelvis, the iliac crests being flared out, and the ischial tuberosities and spines approaching each other. The effect upon labor is even more pronounced than in the ordinary type of funnel pelvis since the sacrum is rotated to some extent on its transverse axis, and the tip approaches the symphysis. The posterior sagittal diameter of the outlet is thus shortened.

Hip disease occurring in childhood gives rise to an obliquely contracted pelvis. If the disease begins before the child has learned to walk, or if the child is confined to bed for any length of time, the diseased side of the pelvis shows definite atrophic changes, and is distinctly smaller than the other half of the pelvis.

When the child begins to stand, the body weight is transmitted in great part to the well leg, either because of the shortening of the diseased leg, or from fear of pain as a result of throwing weight upon it. The pelvis is tilted obliquely, the well side being higher.

The necessary force transmitted to the well leg tends to push that side of the pelvis upward, inward and backward, and an oblique contraction results. Ankylosis of the sacro-iliac joints frequently occurs. As a rule the oblique contraction is found on the well side, but when the diseased leg is ankylosed in a position of abduction, and internal rotation, the reverse is said to be the case.

One sided congenital dislocation of the femur, an old poorly united fracture of the neck, untreated infantile paralysis of unilateral type, shortening due to knee or ankle disease, or amputation will also produce oblique contractions of the pelvis.

The possibility of serious pelvic contraction in these cases can scarcely be overlooked, since the patient shows a pronounced limp on walking. If questioning brings out the story that the condition has existed since early childhood, it is probable that pelvic examination in conjunction with the use of the X-ray will show atrophy of the diseased side of the pelvis, plus oblique contraction of the well side.

A careful exploration of the pelvic cavity by digital and X-ray methods, the first under anesthesia if necessary, is essential. Vaginal examination may be difficult, since the diseased leg may be ankylosed in such a position as to seriously interfere with the necessary manipulations.

The ordinary pelvic measurements are of no value in estimating the degree of contraction.

The obliquely contracted pelvis of Nagele and the transversely contracted pelvis of Roberts deserve special mention.

The first is said to be rare. Its main characteristics are an oblique contraction involving both brim and outlet, combined in most cases, with ankylosis of the sacro-iliac joint on the affected side. The cause is lack of development or even practical absence of the sacral alae on one side, which results in an oblique contraction. These patients do not limp and the ordinary measurements do not show the degree of contraction. Attention should be called to this deformity by the fact that one iliac crest is higher than the other and that a more or less marked scoliosis exists.

Since careful examination of the pregnant woman is the exception and not the rule, most cases pass unnoticed, until the development of serious dystocia forces more careful investigation.

The Roberts pelvis is seen when the sacral alae on both sides are imperfectly developed. All the transverse measurements are shortened, while the antero-posterior measurements are not changed. It is said to be exceedingly rare.

The case here described was thought of sufficient importance to report because of the unusual distortion of the right ischium.

The following case is reported:

Mrs. A. R., age 27 seen in the 6th month of her first pregnancy. She was a native of Vermont, and was well so far as she knows until the age of 3 years. Prior to that time she had made normal progress in walking. She has been told that at 3 years she fell from a high chair, and that she complained of no injury for a week, when it became apparent that she limped with the right leg. Her parents have told her that numerous physicians in her own and in nearby towns were consulted during the next 2 years. X-ray plates were not taken, neither was any particular line of treatment adopted. The general opinion at that time appeared to be that she had a dislocated hip. Since then she has always walked with a limp, although claiming that she was able to enjoy both dancing and skating.

Physical examination of the head, neck and chest was not remarkable.

The blood pressure was 124/80, and remained within normal limits throughout her pregnancy.

The urine was normal at each semi-monthly examination.

There was a slight lateral curvature to the right in the lumbar region.

Abdominal examination showed an enlargement of the uterus corresponding to the 6th month of pregnancy, with a fetal heart best heard in the right lower quadrant, 2 inches outside and downward from the umbilicus. The rate was 136. Pregnancy, she said, had not interfered with her usual mode of life. She walked with a decided limp and by measurement the right leg was 4 c.m. shorter than the left. The pelvis was tilted, the well side being higher.

External measurements were not remarkable in deviation from the normal, however on attempting to measure the transverse diameter of the outlet I could feel no tuberosity of the ischium on the right side, and internal pelvic examination proved impracticable, because the right leg was held in a position of ankylosis with slight abduction and internal rotation.

(Illustrated by lantern slides.)

This state of affairs made an X-ray examination doubly important and it was definitely shown that the right side of the pelvis was atrophied with a peculiar distortion of the ischium, giving the appearance of a bending backward of the entire ascending and descending rami together with the tuberosity.

In fact the tuberosity comes into view tucked up behind the brim and in front of the fetal head, as though the rami on that side had been bent backward by some giant hand.

The plate also shows changes in the head of the femur and I will leave a technical description of these bone changes to others better qualified to interpret them.

Labor was estimated to be due November 21st. The patient and her husband were made acquainted with the problem and proved co-öperative. She entered the hospital November 15 and following rest and preparation was delivered of a living, female child weighing 6 pounds 4 ounces, by elective abdominal section on November 17th. The post-operative history is not remarkable. Mother and child left the hospital on the 16th day following operation.

I have stated that as a rule the oblique contraction is found on the well side, but when the diseased leg is ankylosed in a position of abduction and internal rotation the reverse is true. It would seem that this case presents such a feature.

Discussion

Dr. Harry O. Chesley, Dover: As I understand Dr. Colby's paper he is limiting his discussion of contracted pelvis to those types converging from above downward or to contraction and deformities of the outlet.

Funnel shaped pelves are more often the result of pelvic or spinal pathology than those due to nutritional, rachitic, luetic, masculine and other types.

The great majority of these cases deliver themselves normally, of the lesser percentage that do not, some form of interference becomes necessary, and while caesarean section is indicated in some cases I believe its advisability should be attended with circumspection.

The value of attempted measurements of the outlet in many instances are of questionable value, so much so that I believe each individual case becomes a law unto itself.

I am showing you a slide made from an 8 months pregnancy to demonstrate a normal case.

Now we will discuss Dr. Colby's case. I believe this was made at the Exeter Hospital. I have not familiarized myself with this slide but we will discuss it as we see it.

Dr. Colby states that this subject was well until three years of age; now T.B. hip disease is rare before three years of age. The incidence of its greatest occurrence is generally from three to seven years of age. It shows an early T.B. hip which has healed with the resulting changes so frequently seen with partial or complete ankylosis.

Destruction is by direct extension, never by metastases.

There may or may not be subluxation but subluxation is frequent with distortion of the joint.

When the disease subsides and repair takes place there is seldom new bone formation; instead nature replaces the destroyed areas by fibrous tissue and ankylosis is generally fibrous. If there is sinus formation we may have infection with new bone formation sometimes extensive.

Now the disease with its resulting atrophy and non development results in this side of the pelvis becoming smaller and weaker and less able to stand the stress and strain put upon it later with the result that the rami of the ischium are displaced upward and inward.

When the child is put upon its feet the weight of its torso is transmitted to the well leg; either by shortness of the diseased leg or by pain or both as a result the pelvis is tilted obliquely, the well side being higher.

The sacrum is rotated to some extent toward the well side and its tip comes nearer the symphysis.

The ischial spine on the diseased side is pushed upwards and inwards and we have the typical funnel shaped pelvis.

Dr. D. C. MacLachlan, Portsmouth (Read by Dr. L. R. Hazzard): In any case of contracted pelvis of any type there are two factors, the size of the child and the size of the bony pelvic canal; the passage and the passenger; were it possible by X-ray or other means to exactly measure these, our task would be easy. However, there are a few fairly definite measurements and procedures of great value which are not used as much as they should be. Measurements, viz., interspinous, intercrestal, intertrochanteric, and the external conjugate from which the true conjugate is estimated.

A review of two thousand cases of contracted

pelvis at the Montreal Maternity shows that in one thousand eight hundred and eighty-one where the c.v. was 10.5 cm., or over, all cases delivered themselves spontaneously, while if between 8.5-7.5 c.m. then one case in three demanded surgical interference.

Much information can be gained by making an attempt to engage the head while the examing finger is in the vagina. In the primipara in the last month ascertain whether the head has engaged.

The formation of a pendulous abdomen means failure of the head to enter the pelvis and is of value. Here is the advantage of prenatal care. Having obtained as nearly as possible the relative size of the child and canal, the problem is whether or not to do a Caesarean section. We know that elective Caesarean section performed before the onset of labor or early in labor under proper conditions should, and does give, good results, a maternal mortality of about two per cent. However, done later, especially after the membranes have ruptured and several examinations have been made, it is a very serious procedure, giving a maternal mortality of from anywhere from ten to twenty-five per cent. Therefore a decison should be reached early as Dr. Colby did in his case.

Dr. Burgess of the Montreal Maternity in eighteen thousand six hundred and seventy cases between 1906 and 1923 found contracted pelves in fourteen hundred and sixty-two; of these only four hundred and seventy-three required operation, that is, seventy-five per cent. of the cases of contracted pelvis delivered themselves spontaneously. In seventy of these four hundred and seventy-three cases labor was induced with no maternal deaths. His conclusions are from those cases:

(a) That a large percentage of cases delivered themselves normally.
(b) A high fetal death rate in version and extraction.
(c) The comparative safety of Caesarean section, especially if made an elective operation.
(d) That craniotomy should be safe for the mother.
(e) That a timely induction of labor gives results that compare favorably with other methods of delivery.

Caesarean section will always hold a prominent place in the solution of these cases, and if made an elective operation and performed after a test of labor without vaginal examinations it is a comparatively safe operation.

Inasmuch as about 75% of obstetrics is done by general practitioners the simple and more easily performed operation, for most men, of induction of premature labor must be given a place in properly selected cases. In a personal letter Dr. Burgess says "I think as one grows older he advises less often a Caesarean section for contraction of the outlet, and personally I have been astounded at the apparently small outlet that was needed, and my opinion inclines more, in this class of cases, to trial labor rather than Caesarean section or induction."

Dr. G. S. Foster, Manchester: I want to say a word relative to these contracted pelves. In the years 1922 to 1924 I collected in the various clinics of this country 570,000 confirmed cases of full term dead-born children. This impressed me very much because I felt that at least some of these babies could have been saved with the proper procedure. Allowing that possibly some of these cases might come under this head, I reinvestigated them and found of these 570,000 collected cases confirmed, three per cent. of them had attached to the baby's death certificate, "secondary to pelvic deformity or contraction." This again impressed me very much and brought to my mind two facts—Are we careful enough in our investigation and examination early after the mother becomes pregnant, relative to the dimensions of the pelvis or an X-ray investigation confirming the presence or absence of any bony deformity? Secondly, if you will permit me to theorize and thus allow that 90 per cent. of these deaths were justifiable and could not have been saved; you will give me permission to state that probably ten per cent. of these children could have been saved by Caesarean section. Thus it is seen that 57,000 of the children of this collection could have been saved in this country during this period. I believe when there is any question we should always do a Caesarean section.

THE OTHER SIDE OF COUNTRY PRACTICE*

BY RALPH W. TUTTLE, M.D.†

"If you can set a fractured femur with a piece of string and a flat-iron and get as good results as the mechanical engineering staff of a city hospital at 10 per cent. of their fee;

If you can drive through ten miles of mud to ease the child of a dead beat;

If you can do a podalic version on the kitchen table of a farm house with husband holding the legs and grandma giving chloroform;

If you can diagnose tonsillitis from diphtheria with a laboratory forty-eight hours away;

If you can pull the three-pronged fishhook molar of the 250 pound hired man;

If you can maintain your equilibrium when the lordly specialist sneeringly refers to the general practitioner;

If you can change tires at 4 below at 4 A. M.;

If you can hold the chap with lumbago from taking back rubs for kidney trouble from the chiroprac;

Then, my boy, you are a Country Doctor."

H. W. Davis, Kansas Medical Journal.

*Read before the New Hampshire Medical Society in Manchester, May 16, 1928.

†For record and address of author see "This Week's Issue," page 903.

ALL of this contains much truth and at times has to be done, affording much pleasure and occasionally some profit to a red-blooded man.

The problem of adequate medical attendance in the country is becoming acute. Last year this Society heard a clear and comprehensive report by the Committee on Distribution of Doctors, giving us some facts and some good suggestions for relief. This committee was continued and I hope has brought nearer a solution of the problem.

If we are unable to cope with the situation, we are coming to some form of state medicine, which I sincerely hope will not obtain in my day. This would mean bureaus, the patient would be entirely lost in the system and the doctor would be only a filing clerk. The mass of reports to be made out in duplicate and triplicate would take so much of the doctor's time that he would be unable to practice medicine and he would have great difficulty in making the stork conform to regulations.

About all we hear about country practice has to do with the hardships and inconveniences; as long as nothing else is brought to the attention of men looking for a location they are not going to give a thought to country practice unless they are imbued with the missionary spirit. It is high time that the other side should have its innings. If someone with a gift of expression could have my opportunity of presenting this subject to-day and could tell attractively of the pleasure and satisfaction of work in the country, I am sure it would be a revelation.

If a man wants experience the country is the place to get it, for there he sees a great diversity of cases. In the course of a year he will see nearly all the diseases that flesh is heir to and what is better he knows, not from an inaccurate history given him by a patient but from actual observance, the history, family history, mode of life, character and tendencies of his patient. He can also follow through the course of the disease to its conclusion, because the patient will stay with him and not run hither and yon to this one and that, for the patient has confidence in his doctor because you are *his* doctor and not *a* doctor.

There is a lot of satisfaction in helping to bring a little chap into the world, directing his feeding, helping him cut his teeth, watching him develop and getting his confidence so that when the ills of childhood come along the little fellow looks forward with pleasure instead of trepidation to your visit. He opens his mouth for inspection of the throat and submits even to the spoon handle without the necessity of calling in the neighbors to hold the flying arms and legs, for he knows that you are his friend and what you are doing is for his good and not idle curiosity on your part. As the child gets older he learns to come to you for help and advice until in time the country doctor is a foster father to all the boys and girls of the community. There is a lot of satisfaction in that.

I believe that if every specialist could have a period of country practice before concentrating on his chosen subject he would be able to do his patients much more good and would make fewer mistakes; for he would have a broader view and would be able to see his patient as a whole, as a combination of systems complexly interrelated and co-ördinated, each system dependent on all the others so that any failure of perfect function in one upsets them all.

There are many specialists who have this ability to see beyond the heart, lung, gallbladder or stomach and because of that, they stand at the head of their profession. Please do not think that I am trying to decry the specialist, I am not, I have every respect for them and turn to them often, realizing that it is chiefly through their extensive study of the different systems that the science of medicine can progress.

As an example of the diversity of country practice, I am going to give you a list of one day's cases: Influenza, Pneumonia, Influenza, Chronic Myocarditis with edema of the larynx, Multiple Arthritis of gonorrheal origin, Cerebral hemorrhage, Colles's fracture, Infected gallbladder, Mitral disease, Hysteria, Question of beginning Renaud's disease, Gonorrhea, Sciatic neuritis, Senility, Cardiac Asthma, Flatfoot, Cystitis, Pyelitis, Hyperacidity, Constipation, Hernia, Peritonsillar abscess, Chronic tonsillitis, Ischio-rectal abscess, Bronchitis and last but not least a woman that is a walking museum of pathology.

Of course every day is not the same; that is what makes it interesting. During the last months besides the usual run of colds, influenza and indigestion, I have seen a transverse presentation with ruptured membranes, a generally contracted pelvis necessitating Caesarean section, gastric ulcer, appendicitis, cancer of the transverse colon, gall stones, psoriasis, tuberculosis, angina pectoris, chronic prostatitis and numerous other diseases.

Occasionally there comes a drab day when everyone seems to be perfectly well except a few chronics that can be looked after in the morning. Then a fifteen minutes drive makes it possible to be on any one of a half a dozen trout brooks, where a good dinner waits to be caught. Or if your inclination runs to golf a short drive brings you to a golf course; and if you wish, the cities are not too far away for a visit.

The transportation problem is very much improved over that of a decade ago. It would have to be or the ground could never be covered; the lack of doctors makes those of us that are left travel farther. In my section of the State 15 years ago Barnstead had one doctor, now none, Pittsfield four, now three, Northwood four, now one, Gilmanton Iron Works one, now none, Farmington four, now two, Alton four, now two. In the days of the horse this country

could not have been covered by the present personnel; the automobile has made it possible as it now is, but if the doctors become fewer and the distances greater it will be well nigh impossible. At present I am covering between 30,000 and 35,000 miles a year.

This is possible because the roads are better and in the winter the roads are plowed so that the automobile is a year round possibility. With a single exception, it is five years since I have driven a horse. This increased facility of transportation not only helps the doctor get to his patients but makes it possible to take the patients to a hospital if need be and at present there are few places that are not within fairly easy reach of a hospital, a trip to which can be made almost as easily as to the hospitals in the larger cities by patients that live on the outside of the city.

These hospitals are well equipped and managed and the patients receive as good if not better treatment than in the metropolitan hospital, because the patient gets more individual care and treatment, not being lost in the system and becoming a case instead of a patient. The laboratories connected with these hospitals allow for plenty of individual work and investigation if the doctor has the time and the inclination.

A practice is more easily built up in the country than in the city; everyone knows everyone else and they all talk over the doctor and his patients, after church and at the sewing circle. Many a country doctor has been made by the sewing circle, the greatest advertising medium in the world outside of the party line.

Living conditions in the country are much improved. Nearly every hamlet has its electric lights and town water. If for any reason they do not have them, there are several very efficient makes of private electric plants which can be used to operate a pump for running water making possible modern plumbing miles from the city. The same plant will run the electric refrigerator and vacuum cleaner, washing machine and iron. It will also take care of what electrical apparatus the doctor can find time to make use of in his practice.

The radio brings Grand Opera to us in comfort, no rushing around in stiff shirts, being robbed by taxis and held up by ticket scalpers but sitting in the old arm chair with the pipe drawing well you can listen or not as you please, and it is nobody's business if you go to sleep and snore; try and do that in an orchestra stall. Very excellent church services are broadcast every Sunday, the radio having a distinct advantage in that it can be turned off during the offertory.

The country school system of today no longer has to take a back seat to that of the city. Our boys and girls go to Normal School and College on a par with their city taught brothers and sisters, every bit as well grounded in the fundamentals of education. Their health is taken care of by periodic medical inspection, the defects found are reported to the family and a follow-up nurse sees to it that their defects are corrected in so far as it is possible.

Eye clinics and dental clinics take care of those that are unable financially to give proper attention to these matters.

A doctor chooses his profession for two reasons, one is because he likes it, and if he doesn't like it he had better quit for he is only encumbering the ground. If he is a good red blooded man who enjoys sunshine, fresh air and freedom, who is willing to work hard and play hard among people who are 90% American, the majority of whom read more and better literature and know more about politics and world affairs from internal conditions in Europe to the number of home runs Babe Ruth has made to date than most of the city dwellers, then he will choose a country practice.

The second reason he chooses his profession is to make a living. There are few country practices where the doctor cannot make a living from the first week. I know several doctors who started in the country so as to get money enough to exist in a city until they could make a living, finding their surroundings more pleasant than they had anticipated with plenty of work and better living than most of their classmates who had started in the city, have decided to become country doctors.

From what I gather from drug travelers the percentage of collections in the country is higher than in the city. The past year I have collected about 75% of my charges and I am a poor collector. The per cent. could be brought up ten points by sending statements every month. I know one country doctor who collects at least 95% of his charges.

As I have tried to show a country doctor sees such a variety of cases he cannot get into a rut and he can have a good time making a living.

Discussion

Fred E. Clow, Wolfeboro: For years the country doctor has submitted to the pitying and patronizing attitude of his metropolitan confreres and a portion of the general public. Teachers of medicine have been guilty of this to an extent that is little appreciated unless one happens to be a country doctor himself. We are, in my opinion, reaping the benefits of this sarcasm and ridicule in the dearth of young men who are willing to accept the exaggerated hardships of a life of service in a small community. There seems to be a general feeling that only men imbued with the missionary spirit of a Grenfell are willing to relegate themselves to what they are pleased to call the "backwoods".

The country doctor of today, belittled as he has been, with his opinions and methods derided

as of little import, compares with his prototype of the previous century as the smart roadster resembles the one horse shay. He treats more than ninety per cent. of his patients by himself by methods that, while they are not sensational or experimental or awe inspiring, produce results that compare not unfavorably with those who live on Broadway. He has, and uses his microscope and other instruments of precision. He uses the clinical laboratory and the X-ray machine. He reads good books and ethical journals. He has a hospital, or he has some arrangement with one where he directs the treatment of his own patients. His patients are no more prone to stray to cultism, or to leave him for the city consultant than are those of his metropolitan friend. Economically his position has tremendously improved in the last ten years. The automobile has made it possible for him to keep office hours.

In the effort to reduce the spread between a real product of research and the patient he is doing his share. He may be slow to adopt diagnostic or therapeutic measures that are of only temporary value, but his patients rarely suffer because of this attitude.

The man I am describing is typical of a majority of the members of this society. Dr. Tuttle's presentation of the type of practice that is rarely understood makes clear this point that the rural practitioner of 1928 has nothing of which he need be ashamed, even in the presence of the mightiest of our profession.

To paraphrase Stevenson: if the physician is "the flower (such as it is) of our civilization" I believe the country doctor, with all his weaknesses and shortcomings "will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race".

Dr. Abram W. Mitchell, Epping: When I received this program and noticed I was down to participate in the discussion of the paper of Dr. Tuttle's on "The Other Side of Country Practice" I wondered which side that was to be, whether he was going to put on the right or the left shoe because there are as many sides to this mighty question of country practice as there are communities and practitioners, and whether the doctor was going to elaborate on one side or the other I couldn't tell. It might be the fortunate or the unfortunate, the difficult or the easy, but it didn't matter, he has given us a glorious paper and has touched upon all of these points. I think we can all feel that he has spoken of our troubles and our hopes and our successes. There is no discussion of the question that there are glorious heights in the practice of the profession and gloomy slums and sloughs of disappointment that come to every man who practices medicine for a good many years whether he be a rural or a city man.

The changes that have taken place in rural practice, of course, we all realize. They are fundamental and necessary. They are as necessary as the changes that are taking place in trade and in theology. Personally I am thankful that I am not a retail trader or a theologian now, because I wouldn't know what to do in either situation—it would be worse than practicing medicine. The change is giving greater freedom. The adult population is doing just as it likes. We have lost that hold on the public when we were one of the three Ps, the prophet, the physician and the priest. The specialist has profited by it. The pseudospecialist and all the cults and fads have profited too, but anyhow the great advantage is that the public is having a grand good time and doing just what it pleases.

Dr. Ralph W. Tuttle (closing): I don't know whether I have anything further to add. I think I have said enough. Too much said on any one subject often times leaves a gnawing taste in the mouth, and you forget perhaps some of the enthusiasm. It makes me think of the story of Mark Twain which he told about the returned missionary who was pleading for funds to carry on the work and he pleaded so eloquently that the men were pulling their pocket-books out and the women were pulling off their rings, and if the sexton had passed the contribution box, he would have had to make more trips. But as he went on talking the men put their wallets back, and the women put on their rings, and when the sexton passed the plate Mark stole ten cents off of it, he said.

MISCELLANY

INFANTILE PARALYSIS

Fourteen cases of infantile paralysis reported to September 1st. for the year 1928. Last year, September 1st., there were reported fifty-five cases throughout the state. These facts indicate that so far as New Hampshire is concerned infantile paralysis cases for the year 1928 are fewer than for some years, with no suggestion of an epidemic.

There is still some uncertainty about the methods of spread of infantile paralysis; the presumptive evidence is that healthy carriers and missed cases spread the disease.

Patients with the disease should be isolated in the acute stage.

All body secretions should be treated as infectious.

Exposed cases should be isolated for a few days.

The department offers diagnostic service and will send information on the disease upon request.

CLASSIFICATION OF CASES

The foregoing description of symptomatology refers to cases which may be classified roughly into three groups, according to ease and certainty of diagnosis, viz.:

(1) Cases with definite and characteristic *paralysis*. These have been familiar to the medical pro-

fession for many years, and, after the onset of paralysis, offer no difficulties of diagnosis.

(2) Cases which do not develop paralysis, but do exhibit symptoms clearly indicative of meningeal irritation and usually of some minor disturbance of motor centers. These so-called "abortive cases" may be diagnosed quite certainly with lumbar puncture, and frequently to a fair certainty without it.

(3) Cases which exhibit symptoms of general systemic infection similar to the initial symptoms of known cases of poliomyelitis, but without definite indications of involvement of the central nervous system. These come under suspicion as poliomyelitis chiefly or solely because of their association, in time and place, with clearly marked cases of the disease. The writer believes that the frequency and intimacy of this association is sufficient to justify the conviction that cases of poliomyelitis with only these indefinite symptoms actually do occur, and are, in fact, quite common. Considered individually, however, such cases can only be considered as "suspicious."—*Bulletin State Board of Health.*

SOME BOOTLEG COSMETICS

A Notable Seizure of "Hair Tonic"

The makers of dangerous and fake preparations in the cosmetic class are usually sufficiently astute to realize the desirability of so guarding the language of their claims as to avoid having these preparations classable as drugs, and thus coming within the purview of the Food and Drugs Act. That is, most of these makers take advantage of the fact that so long as the product is not legally classable as a preparation for the cure or alleviation of disease they are in nowise amenable to the provisions of these laws, and there is, therefore, no limit to the extent to which they are able to practice deception upon the consumer.

For this reason, those who are in position to appreciate this situation cannot but keenly realize the need of laws which, like the Food and Drugs Act, as applying to foods and remedials, will serve to curb the operations of this gentry and thus prevent the foisting upon a too gullible public of wares the sale of which is based upon misrepresentation and which in many cases as well entails a health menace.

Attempts to correct this discreditable situation through legislation have thus far failed, largely because those who make our laws seem prone to be impressed by the plausible sounding pleas of the "slick" lobbyists, who, on behalf of their clients, present a united front of injured innocence, and are wont to harp upon the string that "business must not be injured." We are told in this connection that we must wait for national legislation, that this must come first, in the interests of uniformity and sanity. While this may be very well, in theory, yet in practice it is to be feared that we shall wait long indeed for the consummation of such an end. In fact the industry has flatly stated in effect that it will not tolerate the enactment of such legislaion, "because it is unnecessary,"—and it cannot be questioned that its obstructive powers in this respect are very great.

Just what the industry at large might have to fear from any sane and reasonable system of regulatory control does not appear upon the surface. Ostensibly, it is just that the idea of being subjected to any kind or degree of regulation is always and naturally abhorrent, albeit in the last analysis such inevitably redounds to the good of the many. However, if minutely inquired into it is probable that a more cogent reason impelling objection on the part of some of the better known members of the industry would be found in the fact that some of these are financially interested in concerns whose products and practices they would scarcely care to have bear the stamp of their own good names. As is well known, prior to the enactment of the Food and Drugs Act, this was a popular method with not a few leaders in the food industry for coining money through shady practices while at the same time avoiding blemish to their own reputations.

There are, it is true, two other methods which are proving of assistance in dealing with certain types of these cases. But a charge based upon violation of the postal laws can only obtain where use of the mails to defraud can be shown. So far as any assistance from the Federal Trade Commission might be looked for, this body commonly acts only upon complaints from members of the trade, and in this particular matter the cosmetic trade, both manufacturing and retail, seems quite content to tolerate the continued existence of this excrescence upon its body.

To revert to the title of this article and as indicating that the makers of fake cosmetics occasionally transcend the bounds of safety in their labelling, the case of Nu-Hair, manufactured by the H. Tyree Chemical Company, Philadelphia, is here presented. The label of this preparation, which purports (as usual) to be A Secret Formula For Restoring Gray Hair To Its Original Color, bears certain claims with respect to the modus operandi which serve to bring it within the scope of the Food and Drugs law. Although held out as being "Positively Not A Dye but a scalp treatment which causes the roots of the hair to function normally, thereby restoring the hair to its original color and vitality," the analysis nevertheless indicated that it is a dye in that its essential ingredients for "restoring" color are a salt of lead and sulphur, and an action for seizure under the state Food and Drug law was instituted by this department against a large quantity of this preparation as shipped by the defendants company during 1927 to a Manchester, N. H., consignee, locally unknown, the goods eventually coming into the hands of a concern which advanced a substantial sum to the individual who originally accepted them and who had planned to enrich his fortunes through a house-to-house sale of this supposedly valuable household commodity. It appeared that the endorser of the project never seriously questioned either the validity or the soundness of the scheme.

In addition to a large assortment of face and antiseptic powders included in the shipment and having a nominal retail value of some $9,000, against which no grounds for legal action were found, there were also included 4,000 bottles of Nu-Hair having a retail value of $14,280, based upon three dollars for the half-pint and five dollars for the pint size. This lot was libelled for seizure under the state law and, no claimant having appeared, was recently destroyed in pursuance of an order of the Court.—*Bulletin N. H. Board of Health.*

NEW HAMPSHIRE MORTALITY STATISTICS: 1927

Washington, D. C., October 24, 1928.—The Department of Commerce announces that the 1927 death rate for New Hampshire was 1,391 per 100,000 population as compared with 1,476 in 1926. This decrease in 1927 is accounted for by decreases in the death rates from pneumonia, all forms (from 124 to 98 per 100,000 population), nephritis (from 115 to 95), influenza (from 57 to 38), bronchitis (from 17 to 8), measles (from 9 to 2), tuberculosis, all forms (from 70 to 65), diarrhea and enteritis, under 2 years (from 14 to 10), and cirrhosis of the liver (from 9 to 6).

Increases in 1927 are shown in the death rates from diseases of the heart (from 271 to 291 per 100,000 population), and diabetes mellitus (from 25 to 30).

The estimated population in 1927 was 455,000 and in 1926 was 454,000.

Cause of death	Deaths in New Hampshire			
	Number		Rate per 100,000 estimated population	
	1927	1926	1927	1926
All causes 1/	6,329	6,703	1,391.0	1,476.4
Typhoid and paratyphoid fever	3	11	0.7	2.4
Malaria	-	-	-	-
Smallpox	-	-	-	-
Measles	11	39	2.4	8.6
Scarlet fever	20	30	4.4	6.6
Whooping cough	28	36	6.2	7.9
Diptheria	20	18	4.4	4.0
Influenza	173	260	38.0	57.3
Dysentery	1	2	0.2	0.4
Erysipelas	15	17	3.3	3.7
Lethargic encephalitis	4	5	0.9	1.1
Meningococcus meningitis	7	9	1.5	2.0
Tuberculosis (all forms)	294	319	64.6	70.3
Of the respiratory system	232	254	51.0	55.9
Of the meninges, central nervous system	25	20	5.5	4.4
Other forms	37	45	8.1	9.9
Syphilis 2/	45	45	9.9	9.9
Cancer and other malignant tumors	613	605	134.7	133.3
Rheumatism	23	25	5.1	5.5
Pellagra	1	1	0.2	0.2
Diabetes mellitus	138	115	30.3	25.3
Meningitis (nonepidemic)	17	27	3.7	5.9
Cerebral hemorrhage and softening	728	689	160.0	151.8
Paralysis without specified cause	8	33	1.8	7.3
Diseases of the heart	1,324	1,230	291.0	270.9
Diseases of the arteries, atheroma, aneurysm, etc.	289	284	63.5	62.6
Bronchitis	37	78	8.1	17.2
Pneumonia (all forms)	446	561	98.0	123.6

Cause of death	Deaths in New Hampshire			
	Number		Rate per 100,000 estimated population	
	1927	1926	1927	1926
Respiratory diseases other than bronchitis and pneumonia (all forms)	39	41	8.6	9.0
Diarrhea and enteritis	63	82	13.8	18.1
Diarrhea and enteritis (under 2 years)	47	63	10.3	13.9
Diarrhea and enteritis (2 years and over)	16	19	3.5	4.2
Appendicitis and typhiltis	54	56	11.9	12.3
Hernia, intestinal obstruction	55	57	12.1	12.6
Cirrhosis of the liver	29	42	6.4	9.3
Nephritis	434	522	95.4	115.0
Puerperal septicemia	17	16	3.7	3.5
Puerperal causes other than puerperal septicemia	40	50	8.8	11.0
Congenital malformations and diseases of early infancy	374	371	82.2	81.7
Suicide	62	59	13.6	13.0
Homicide	3	4	0.7	0.9
Accidental and unspecified external causes	286	324	62.9	71.4
Burns (conflagration excepted)	15	21	3.3	4.6
Accidental drowning	38	48	8.4	10.6
Accidental shooting	4	7	0.9	1.5
Accidental falls	60	86	13.2	18.9
Mine accidents	-	-	-	-
Machinery accidents	8	8	1.8	1.8
Railroad accidents	29	16	6.4	3.5
Collision with automobile	12	4	2.6	0.9
Other railroad accidents	17	12	3.7	2.6
Street-car accidents	2	1	0.4	0.2
Collision with automobile	-	1	-	0.2
Other street-car accidents	2	-	0.4	-
Automobile accidents (excluding collision with railroad trains and street cars)	71	68	15.6	15.0
Injuries by vehicles other than railroad trains, street cars and automobiles 3/	5	8	1.1	1.8
Excessive heat (burns excepted)	3	-	0.7	-
Other external causes	51	61	11.2	13.4
All other defined causes	590	597	129.7	131.5
Unknown or ill-defined causes	38	43	8.4	9.5

1/ Exclusive of stillbirths.
2/ Includes tabes dorsalis (locomotor ataxia) and general paralysis of the insane.
3/ Includes airplane, balloon, and motor-cycle accidents.

MORTON BUST PRESENTATION ADDRESS*

BY F. H. MC MECHAN, M.D.†

Mr. Chairman, Ladies and Gentlemen, and Fellow Anesthetists:—

THE world has many feasts and holidays, but among them there is none that approaches in interest or importance the one we celebrate today, and in commemorating "Ether Day" we look back upon that momentous occasion which initiated the era of painless surgery and we try to pay our respects and show our appreciation to Morton, the genius, who in this very amphitheatre, 82 years ago, for the first time publicly and successfully demonstrated the possibility and value of etherization.

It is easy enough to conceive a new idea in the study and work out its details in the laboratory, but to demonstrate its utility to a doubting public and a skeptical profession is quite another matter. Yet that is what Morton did and we cannot but admire him for his accomplishment, because in so doing he gave that gift of gifts—painless surgery—to suffering humanity, which had been awaiting this beneficence for untold ages and generations.

I cannot challenge your attention more dramatically to the value of anesthesia than to ask you—"What would happen tomorrow if anesthesia were blotted from the world today?" You can realize that the whole structure of modern surgery, a great part of medical practice and most laboratory research would go crashing into the abyss of oblivion. You cannot conceive of life going on without surcease from pain in face of the fact that, day by day, as many casualties of peace drift into our hospitals as were evacuated from the trenches in the world war.

Imagine if you can the emotions of patients who had to endure the ordeal of a surgical procedure without anesthesia and the dauntless courage of surgeons in performing their operations without relief of pain. Before Morton's demonstration, hospitals were looked upon as houses of terror and torture and death itself seemed preferable to the agonies of the operating room. We can scarcely credit that such conditions and circumstances ever existed.

We think of anesthesia as having permeated the known world, and yet among nations of hundreds of millions of souls, painless surgery is as primitive now as it was among the Scythians and Incas and in China in the days of Hoa-tho. Even in our midst, in what we consider the most civilized of countries, how many countless things are done in our hospitals, clinics, offices and in the homes of our patients with never a thought of pain relief? This is one of the remaining cruelties of medical practice that must pass before we are really entitled to the affection and esteem of the public, which looks to us for delivery from unnecessary suffering.

In his day Morton flung us a torch, lit with the fire of his vision and burning with the inspiration of his ideals! In full confidence, I think I may say that this torch—the heritage of future generations of anesthetists—was caught and has been carried by them proudly and with a full measure of achievement. Anesthetists were not long in learning the lesson that for anesthesia to achieve its full purpose, its organization must of necessity become world wide in scope and results.

Already the English-speaking world has accomplished its organization of the specialty. We have the Sections of Anesthetics of the Royal Society of Medicine and the British Medical Association and a Section of Anesthesia will be added to the Australasian Medical Congress at the meeting in Sydney next year. We also have the Scottish Society of Anesthetists and the Associated Anesthetists of the United States and Canada with its five regional societies—the Canadian, Eastern, Mid-Western, Southern and Pacific Coast. All these have had a potent influence upon the profession at large for better anesthesia not only through their own meetings and programs, but also through joint sessions with larger and more important medical, dental and surgical societies.

The world is changing for the better; old ideas are forgotten and new ideals take their place to shape our destinies for better things. Out of strife and enmity come understanding and brotherhood, barriers are broken down and frontiers vanish; anesthesia knows no limitations; its arms are opened wide to all those who wish to relieve pain and to those who suffer pain. In this connection may I tell you that during a recent Congress in Hamburg of the basic sciences and medicine, Germany was invited, after an ostracism since the end of the war, to re-enter the ranks of the medical profession of the world and that this invitation was presented through the specialty of anesthesia and was accepted with delight because it was felt that there was no gift within the giving of the new German Republic to its people which could compare with the beneficence of better anesthesia?

The most recent advance in organization is represented by the International Anesthesia Re-

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†For record and address of author see "This Week's Issue," page 903.

search Society, which is attempting not only to foster anesthesia research and the publication of the literature of anesthesia, but also international contacts and fellowship. Its publication of *Current Researches in Anesthesia and Analgesia* has been followed by the founding and publication of the *British Journal of Anesthesia* and the two new German journals of anesthesia—*Der Schmerz* and *Narkose und Anaesthesie*. These publications now stand as broadcasting stations for sending the latest and best knowledge of anesthesia throughout the world and making this information available for

MORTON

"William T. G. Morton, Inventor and Revealer of anesthetic inhalation, by whom pain in surgery was averted and annulled; before whom, in all times, surgery was agony; since whom, *science has control of pain.*"

Jacob Bigelow.

study and further research and teaching purposes.

There is no phase of the practice of medicine which has closer connections with the basic biological sciences than anesthesia. The activities of the Research Society have brought the achievements of pure science into the operating room and have sent the clinical problems of anesthesia back to the laboratory for solution. Today we find this amalgamation of correlated interests between science and practice in the annual Congresses of Anesthetists and that fact adds so much more hope for the future of anesthesia as a specialty in the practice of medicine. The success and progress of any specialty has always rested on a foundation of experimental science as applied to clinical practice, and is going to be done. Teaching hospitals and medical schools must develop such professional anesthetists as will, in didactic lectures, practical instruction and experimental research, vie in calibre with the heads of any other departments.

The general practitioner anesthetist must fulfill the obligation of the profession to the public for the universal demand for the relief of pain. The clinical medical anesthetist must be the internist of the surgical team and bring all the resources of the practice of medicine to the safety and recovery of operative patients. The teaching anesthetist must be the liaison officer between the research laboratory, the medical school and the surgical departments of the hospital. Organized anesthesia looks forward to the day when all physicians will be able to fulfill the ideals of anesthetic service; when all hospitals will have highly organized and proficient departments of anesthesia and all medical schools chairs of anesthesia.

The International Anesthesia Research Society has realized that in co-öperating with the fourth, or physiological era of surgery, the necessity of developing a safety-first campaign for preventing needless deaths and for bringing medicine from under the odium of the time worn adage—"The operation was a success but the patient died!" To accomplish this purpose, its Record Committee has developed a "Safety-First" anesthesia chart, which demands the evaluation of risk before operation, five-minute blood pressure guides and safeguards during the entire operative period and the determining of vital reserve depression through recovery indices for postoperative therapy and care. By the use of the "Safety-First" chart the "supposedly fit" will cease to pass away unexpectedly and without adequate explanation; "the gravest risks" will no longer be hurried into operations without life-saving preparation; and there will be no guess work about what is happening to the patient during the operative period. Finally, the critical 72 hours after operation, as yet so full of anxiety and so pregnant with surgical morbidity and mortality, will give way to the comfort, assurance and blessing of uneventful recoveries.

The Record Committee has also developed a "Teaching" anesthesia chart which enables students and internes to collate all pertinent data from the patient's history as well as the results of further indicated examinations and tests available for exhaustive preoperative evaluation, operative protection and postoperative recovery; not to mention the charting of all the essential reactions to anesthesia and surgery during the operative period itself for further study in bettering anesthesia and surgery.

Organized anesthesia also looks forward to the day when students and teachers of anesthesia will be exchanged between the various coun-

tries in the international conference and it is hoped that, from time to time, the best representative of the specialty will come to present their latest ideas and practices to the congresses of anesthetists, wherever they may be held, and that groups of anesthetists will visit their confreres to see for themselves their clinical demonstrations.

If the medical profession is ever to accomplish the broader possibilities of anesthesia in relation to public service, every physician must be qualified to give safely, pleasantly and efficiently such anesthesia as may be required in painless childbirth, or minor surgery, whether in the home, industrial clinic, or office. Also a certain number of better trained and more competent medical anesthetists are required to go into this work in the hospitals of the smaller towns, where more and more of the surgery of the future is visioning the future of anesthesia, we cannot but feel convinced that the coming generation of anesthetists must have all the resources of applied mechanics, physics, chemistry, bio-chemistry, pharmacology, physiology, and pathology as part of the basis of their future careers. Coupled with these there must also be a well rounded out medical education in the essentials of the general practice of medicine and its specialties, and most particularly in the technical and clinical phases of anesthesia.

From this we can see at once the necessity for every medical school becoming a center for the development of anesthetists, beginning with instruction and animal experimentation in the basic science laboratories, continuing throughout the entire medical course for diagnosis, therapy and prognosis; and concluding with intensive experience for perfection in the specialty itself. More than half of the medical schools of the United States and all of those of Canada are already lending anesthesia their whole-hearted co-öperation in the teaching and instruction of anesthesia through highly developed departments with opportunities for fellowships in the specialty. Their co-öperation is certainly a challenge to those medical schools which are still lagging behind in this respect and are not keeping faith either with their students or the public.

While research workers have discovered and perfected newer general and local anesthetics; and manufacturers have made them available in quantity and quality and with proper equipment for widespread use; and while anesthetists and other specialists have given them rapid and thorough clinical trial, the end is not yet. Perhaps even in our own day the very mechanism of anesthesia itself may be explained and after that the possibilities for progress would seem to be limitless.

In spite of all efforts anesthetics still get into the operating room that now and again are open to the suspicions of impurity, but it augurs well for the ultimate solution of this problem that manufacturers, government bureaus and organized anesthesia are working to secure supplies of anesthetics that may be depended on for absolute and undeviating purity and potency.

The specialty of anesthesia also holds out the prospects of a tremendous economic saving in the cost of operation and the expense of maintaining hospitals. Through the use of newer anesthetics, perfected methods and medical specialists in anesthesia, the patient's stay in the hospital may be so shortened that in a given year under this new dispensation, almost a fourth more surgical or obstetrical patients may be handled without adding another bed or nurse or member of the staff. No matter what such anesthesia costs it pays for itself three times over.

While other things in the world change greatly, human nature remains more or less the same. On this account, just as the anesthetists of each generation must be taught their work anew, so too, the patients of each generation must be reconvinced of the beneficence of painless surgery. When all is said and done a successful profession, not unlike a successful business, is based on the best possible service to the greatest number of people, and anesthesia will come into its own in direct proportion to those who are entirely satisfied with its relief from pain.

Almost every phase of industry and science has been abundantly fostered and financed by philanthropy. Seemingly only anesthesia has been overlooked and neglected, and yet in the practice of medicine it holds out infinite possibilities for relieving suffering humanity. May I then appeal for the creation of a foundation for the further study and development of painless surgery in all its applications. The philanthropist who will confer this bounty in behalf of suffering humanity will need no recognition or reward for he and his kindness will be enshrined in the hearts of a grateful people forever.

In closing, I hope and trust, that you will now appreciate that the torch which Morton flung to us so many years ago has been carried through the generations since his time with credit and progress. Today we have come to lay our achievements at his feet in a reverent spirit of humility and modesty, but not without a certain feeling of pride and a sense of accomplishment.

I shall now ask the presiding officers of those societies that are meeting jointly in Boston:—Dr. Albert H. Miller, of Providence, President of the Boston Anesthetists; Dr. John H. Evans, of Buffalo, President of the Eastern Anesthetists, and Dr. William B. Howell, of Montreal, President of the Canadian Anesthetists, to unveil the bust of Morton to your view.

(At this time the bust was unveiled, the audience with tear-dimmed eyes, rising for the ceremony and applauding to the echo.)

This bust is presented in behalf of the Associated Anesthetists of the United States and Canada and the International Anesthesia Research Society to the Trustees of the Massachusetts General Hospital as a token of their esteem for the part which the hospital played in the development of painless surgery and in founding and continuing "Ether Day" so that the first public demonstration of etherization might be fittingly commemorated every year.

Showing Morton just as he was on the day he entered the Bulfinch amphitheatre and demonstrated to Warren, Bigelow and the others present, that painless surgery was an accomplished fact, we hope that this symbol of the man may remain, throughout the years to come, as a memorial to his glory and a recognition of what he accomplished; and that its presence here may make a shrine for all the anesthetists of the world to come to and understand and learn the lesson which Morton taught.

CHILD LABOR AND PREVENTIVE MEDICINE

BY CATHERINE BRANNICK, M.D.*

IT is only a few years ago that lay and medical journals alike were filled with comment and conjecture on the findings of the War Draft Board—the extraordinary number of rejections on physical grounds. That nine-day topic has gone the way of all popular topics, but it becomes necessary, or at least convenient, occasionally, to resurrect such dead matter, when needed to point a moral or adorn a tale. This is a tale of Child Labor as it may affect the interests of Preventive Medicine.

One of the outstanding surprises in the findings of the draft board was the geographic distributions of the rejections, and here the New England States led all the rest. The anthropologists were inclined to explain this by the racial types of immigrants who settled in this region, but the students of public health and those who know New England intimately, offered a supplementary explanation, namely, the many generations of Child Labor in this old industrial community. Of the six New England States, Rhode Island stood highest in the percentage of rejections. According to the figures of the United States census of 1920, New England leads in the employment of children in non-agricultural work, and Rhode Island leads New England.

A second significant finding of the War Draft Board was the large percentage of rejections among young men born and reared in the country. Obviously, this is not so readily explained on a racial basis. Quoting again the census figures of 1920, over 600,000 children between the ages of 10 and 15 are reported as "gainfully occupied" in agricultural work. And "gainfully occupied" does not mean doing chores about the house or barn, but is defined as "work that constitutes a material addition to the labor income", either on the home farm or when hired out as farm laborers.

Are these sets of figures mere coincidences, or is there some relation of cause and effect? Whatever the truth, it would be difficult to convince anyone who has close knowledge of Child Labor and a disinterested interest in the subject, that the causal relation does not exist, and in no slight degree. It is easy for one who has seen him at work to visualize a spinal curvature in the plastic spine of the eight year old boy who bends over a field of beets for many hours a day; or a hernia in the adolescent boy who works in postural strain for the minimum eight hours of the industrial day; and the young boy operating or cleaning a machine will at once bring up a picture of some 35,000 young men of the draft who had lost an arm or suffered some lesser injury to the upper extremity, and who had come for the most part from the mill states of New England, and from the lumber mill districts of the West.

To be sure, only a relatively small percentage of the defects for which the army rejected would handicap for civil life, according to the statisticians only about 10%, and so it may be agreed that we are 90% whole and healthy for civil life. That depends on the definition of "handicap" and on the point of view of the individual who defines. The draft statistician would not recognize civil handicap in the boy who had lost two or three fingers of his left hand, but to the boy himself, it might constitute an extreme handicap, if, for example, he has to give up an ambition to be a violinist. In our modern scrambled competition, bad posture alone may handicap, for to succeed one must not only be the go-getter, but is expected also to look the part.

In these days of national prosperity and national self-satisfaction, such subjects as Child Labor are not popular. It is always more comfortable to ignore disagreeable problems than to face them frankly, and still more comfortable to deny their existence. And it is freely admitted that, in its old-time aspect of long lines of shivering children pouring into the factories in the small hours of the day, the problem of Child Labor no longer exists. But it is still true that children work, over a million of them, that we know very little of their fitness for the work they undertake and practically nothing of their condition while at work. It is still true that in many states the laws governing Child Labor are inadequate, and that

*For record and address of author see "This Week's Issue," page 903.

in many others good laws are poorly enforced. Beyond this are the factors of changed industrial and social conditions which give to the problem of Child Labor a new aspect yet to be weighed and considered.

As to the inadequacies of the law, such facts as these can leave little doubt:

In 12 states it is not unlawful to employ children under 16 for more than 8 hours a day. In 17 states there are no laws prohibiting children of 14 to 16 from oiling, wiping and cleaning machinery in motion. In 12 states it is not unlawful for children under 14 to work in factories and mechanical establishments outside of school hours. In 18 states the law does not require a certificate of physical fitness by an authorized physician as a condition of employment for children under 16. In 9 states children of 14 years may go to work without any showing of educational attainment whatever[1].

In our time Child Labor has been regarded as a purely social problem, and as such, has been studied and handled by lay organizations and individuals. In its broader relations it is obviously of interest to the sociological group. The educational deficiency of the working child, his general lack of preparation to meet the growing requirements of our civilization; the allied educational defects in our school system, which seem to have the effect of stimulating Child Labor; and the vocational aspect, insofar as vocation and Child Labor can be jointly considered, all are obviously subjects for lay interest. But the physical aspect, the child at work, the health and accident hazards, quite as obviously merit study and treatment by the medical profession in its province of Preventive Medicine.

A study of what takes place in some states which have good Child Labor laws will show something of what may happen to the physical child at work, and demonstrate the need of eternal vigilance in the enforcement of the laws to control Child Labor.

The states which have had the good judgment to pass humane Child Labor laws are consistently the ones to realize that the passage of the law is but a beginning, and the problems of enforcement as detailed in special studies and reports of such states are enlightening. The states whose figures are quoted below have Child Labor laws which surpass, in several points, the minimum standards of the old federal law. As would be expected, the percentage of children at work in these states is relatively low, and the standards of enforcement of the law relatively high.

In December 1925, the Illinois Department of Labor began, in its monthly bulletin, the publication of industrial accidents to minors under eighteen years, as reported to the Industrial Commission. During the twelve months of 1926 a total of 1468 such accidents were reported, of which 1325 called for compensation. Among these were 14 fatalities, 189 permanent partial disabilities and 39 disfigurements. Seventy-five of these minors were under 16, 45% of them being illegally employed, either working without a certificate or at a form of work prohibited by the Child Labor Law. Six of the 14 fatalities were under 16. In an analysis of the figures, the report directs attention to the protective effect of the Child Labor Laws: At the age of 16, the restrictions of the Child Labor Laws no longer hold, and at this point there is an increase of 413% in the number of accidents, as against an increase of only 141% between fourteen and fifteen years and 101% at 17 years[2].

The State of New York, through its Department of Labor, published in 1923 a study of the compensated industrial accidents to minors under 18 for the year 1919-1920[3]. There were compensated a total of 1983 such accidents of sufficient severity to disable a minor for two weeks or more. One hundred sixty-eight of these minors were under 16 years. Nineteen of those under 16 were working on machines when injured and 15 more were cleaning machinery in motion although the Child Labor Law in this state as in others quoted, prohibits the employment at machinery of children under 16. Twelve deaths are listed in this New York report and 421 permanent partial disabilities.

Reports of industrial accidents to minors under 21 have been collected for one year periods in four states—Pennsylvania, Wisconsin, New Jersey and Massachusetts[4,5]. A skeletal summary of these reports shows that in one year the four states paid compensation for industrial accidents to 17,448 young persons under 21 years. In this period, 157 boys and girls lost their lives through such accidents, and 1348 more were left with some permanent partial disability. Multiply the four states by twelve and one has an early and generous start on the long line of physical defects of the next draft. And the figures quoted are at the minimum, for they have been sifted to the point of compensation. Further, they are incomplete for any study of industrial injury to minors, for they do not cover two large occupational groups—the agricultural and domestic service workers. These industries are not included in the compensation laws, and injuries incurred here are therefore not compensable.

It is true, of course, that accidents to minors are relatively few in comparison with the yearly total of industrial accidents. It is true that the accident rate for the young workers under 18 is lower than for adults, but this is largely so by grace of Child Labor Laws and their protective influence. The natural curiosity of the young adolescent, the irresponsibility and carelessness characteristic of his age would certainly subject him to greater accident risk than the adult, given the same conditions and opportunity. The intelligent and conscientious employer has long recognized this in the division of labor in his plant, but with the unintelligent

employer of little conscience it is quite otherwise. Take away the morale of the Child Labor Laws and the conscienceless employers will very soon boost the rate of industrial accidents to minors to its natural level.

These yearly reports and special studies of the various states list only the very obvious effects of Child Labor, loss of life and early maiming. Other less obvious physical effects have been studied only sporadically, and the general effect practically not at all. Industrial fatigue is probably the most important of industrial hazards, yet nothing is known of it in relation to children. From the fatigue of ordinary over-exercise in play, children apparently recover more quickly than adults; but the fatigue that results from the monotony of frequently repeated small movements, especially if under the pressure of piece work, is quite different from the fatigue that follows a football game on the corner lot. Fatigue has a double aspect, a psychological as well as a physical one, and chronic monotony is probably as hard on the spirit of the ordinary adolescent as chronic exercise is on his immature muscles. Dr. Max Sehan, in his recent study of chronic fatigue in school children, includes among five non-medical causes of the condition, excessive amount of outside work for pay[6]. How large a factor this may become is indicated in a Detroit study of an intermediate school of 1510 pupils, where 28% were found to be working before or after school, 26% of them for seven days a week.

Specific effects of certain forms of Child Labor and the possibility of certain remote effects have been noted in a few instances. Dr. Harris, Commissioner of Health for New York City, in arguing before the Industrial Survey Commission for the establishment of forty-eight hours as the maximum week for women in industry, pointed out that many of the difficulties of childbirth are now recognized as due to industrial fatigue and postural strain during the years when the bones are in a plastic condition[7].

An investigation of the health of newsboys was made recently by the Tuberculosis and Health Association of New York City in association with the Board of Education. Over a thousand newsboys were given a complete physical examination. Most of the boys had begun selling papers only at 13 or 14 years, a much higher age than in other cities, and half of them had been selling for only six months when examined. The percentage of physical impairments was no higher than among those not engaged in street trades with a significant exception, the greater incident of flat-foot. Seventeen per cent. of these boys showed flat-foot as against 6% in an unselected group. Curvature of the spine was noted more frequently among the boys who carried heavy loads of papers than among those who sold at the news stands.

Physical examination of a group of agricultural child workers in the beet fields of certain counties of Colorado was made under the auspices of the Federal Children's Bureau and published in 1923 by the Department of Labor[8]. In Colorado, as in other states, agriculture is exempt from the restrictions of the Child Labor Law. Ten-hundred-twenty-two children were examined, ranging in age from 6 to 16, more than one-fourth of them being under 10 years and four-fifths under 14. Practically all of the children worked for their parents, who were employed, for the most part, on the contract labor system. Fourteen and seven-tenths per cent. (14.7%) showed malnutrition to the point of inclusion in the third and fourth grades of the Dunfermline Scale; 66% showed the orthopedic defect of winged scapulae and 21.6% flat-foot.

The general health hazard in Child Labor is naturally not so easily defined as the accident hazard, and the proponents of Child Labor even contend that there is no general health hazard; that there is no proof of any retarding or harmful effect of Child Labor on the general physical development. It is only too true that research in Child Labor has been limited and sporadic, but though "proof" of the harmful effect may be deficient, it would be a brave defender of Child Labor who would contend that the continuous use of the same set of young muscles, over a period of 8 to 10 hours a day in beet field or factory, is beneficial to the growing organism. And in an age notable for its magnification of the child, it seems hardly consistent to encourage an institution which definitely cannot contribute to our boasted child welfare, even though we may not concede proof of its detrimental effect.

Perhaps the most detailed Study of the Child Laborer is the recently published "Experimental Study of Children", by Mrs. Helen T. Wooley[9]. It is much quoted at present by the opponents of Child Labor legislation. The study is a comparison of about 700 school and working children in relation to physical and mental traits and their development, observed over a period of five years. The two groups were given identical intelligence tests and physical examinations at the outset, and yearly thereafter, during the five years covered. One of the main conclusions of the study is that it is the mentally inferior children who tend to leave school at 14 years or as soon as the law permits. The proponents of Child Labor, therefore, argue that all is as it should be: the mentally inferior child can learn nothing further in school and so should be allowed the privilege of going to work at fourteen. Such a conclusion in effect says that the mentally dull child needs less preparation for life, or less of whatever "education" may give, than the superior child. This odd reasoning is further complicated by the correlated finding of Mrs. Wooley's study, that the mentally inferior child, at fourteen, is also physically inferior, and on the way to approximate physical maturity, he continues

to be one to two years behind the superior child. Truly, from him that hath not shall be taken, if the child with double handicap is expected to begin his industrial fight prematurely because he is handicapped.

The author's own conclusion in regard to this point differs essentially from that of the Child Labor proponents in that it is not based on an isolated finding, but on the sum of her findings. "The age at which children should leave school for work", she concludes, "should be determined by the period at which the inferior group completes the years of rapid mental and physical growth, and sixteen years seems the age justified on this ground."

Still other opinion of Mrs. Wooley's study would challenge the grounds for her classification of superior and inferior children. It is hard to believe that the potentialities of an individual can be measured at 14 as simply as the disciples of the intelligence test believe. But any question of the method of classification cannot affect the most obvious conclusion of her study, that for the young adolescent, "school furnishes a better background for physical, and mental development than industry." The whole argument against Child Labor lies in this finding for it recognizes the need of favorable environment for mental development as for physical.

The subject of mental hygiene has now, for several years, been a very popular one, to the extent that in its present lay aspect, its literature may be classed as one of our chief industries. In its technical aspect it is recognized as an important branch of Preventive Medicine, and its principles are being gradually incorporated into the routine education of the medical practitioner. In the face of this medical recognition and lay enthusiasm it is interesting to compare Child Labor facts with the ideal programs outlined by the mental hygienists for the healthy development of the individual.

We read at great length, for example, of the special characteristics and special needs of young adolescents; the strongly egoistic character of the period with its peculiar need of the right balance between success and failure; the necessity of guidance and training in self decision; the emotional conflicts and "flounderings to achieve balance between repression and desire"; the strength of feeling as against the inability to express; the marked sensitiveness which makes the period between fifteen and seventeen the best remembered years of life; the inevitable fixation at this age of healthy or unhealthy mental attitudes.

And having read and re-read, we permit an army of young adolescents to jump into the struggle of industrial adjustment with a minimum of preparation in what we call the fundamentals of education, to pass directly from the absolute "yes ma'am" of the fifth or sixth or seventh grade teacher to the equally absolute, but less interested, "yes sir" of the boss. They may sink or swim in their emotional flounderings, and the success-failure ratio will have to look out for itself. If one happens to be of the "inferior" group, "leaving school early because of a sense of failure", he stands about a ninety to one chance of piling up his feeling of inferiority by further failure. What happens to the self-confidence and to the social confidence of the adolescent boy who hunts unsuccessfully for a job? Of course, he may be of the concentrated go-getter type, the insensitive extrovert of the psychologists, or even of the opposite sensitive type who "over compensates", and in either case develop into the much advertised future millionaire. But his experience is much more likely to develop well marked work inhibitions, and the "what's the use" attitude which hardens into the familiar defensive pugnacity of the young loafer. A general sense of injustice is easily established at this age, and there is no more fertile field for the development of such feeling than in the ordinary run of jobs open to Child Labor. The fourteen-year old errand boy who was discharged by a wrathful employer because he had permitted a customer to browbeat him into giving up a parcel, without due payment, has formed a poor opinion of adult justice. On the one hand, his employer has unreasonably demanded mature judgment from the boy; on the other, the customer, recognizing his immaturity, has taken advantage of it. A job may do much for us or to us, and the experience of this boy, which is typical, would suggest that Child Labor jobs are not of the variety that do for us.

No one denies that the kindly and interested employer of children exists, but his existence cannot change the fact that children are not employed for their own development, and that in general only the poorest types of work are open to them. Everyone is familiar with the occasional millionaire, who began his working life at twelve or fourteen, but this rare case of genius or luck does not change the unfavorable facts for the 99% of the non-millionaire type, prematurely tired or discouraged.

The peak of juvenile delinquency is placed by the statisticians between 15 and 17 years, that "most sensitive period" of the psychologists. It is perhaps significant that the period also makes the peak of disillusionment for the young worker. In our modern way of life, the use of leisure time has become about as important as the job. What training, for one or the other, has the boy of 14 who leaves the sixth grade for an errand or factory job? With a sense of defeat in his attitude toward work, with no guidance in the use of the leisure that so often occurs in generous measure between the child worker's jobs, it is natural that the Juvenile Courts should find a close relation between Child Labor and delinquency[10].

The concern of Preventive Medicine with the

physical aspect of Child Labor is as obvious as it is important. The psychologic phase is not so patently its concern, and yet, according to the modern conception of its field, Preventive Medicine should be as concerned with the one phase as with the other. "Not only is Public Health concerned with the prevention of disease, but of equal importance is the promotion of health by improving physical and mental fitness. Not only to live, but to live in the full enjoyment of life is the aim of Preventive Medicine[11]." This is the definition of its field by one of the leaders in Preventive Medicine. For the great majority of us life revolves about the job, and so it is proportionately important that we should not undertake it prematurely, nor prematurely lose the enthusiasm for it that is essential to the "full enjoyment of life".

It is not contended here that Child Labor is increasing, but only that its control demands active and constant opposition. It is not contended that all children who work are harmed thereby, but only that many obviously are. The chief contention is that the questions, should children work, and when, and where, and how, deserve an impartial study by Preventive Medicine.

The demands of the ever widening field of Preventive Medicine seem on first thought to be burdensome and oppressive for the individual physician. In reality, the demand is not upon the doctor's time but only upon his interest. Child Labor asks of the individual physician only a recognition and an awareness of the problem to such degree that his interest is communicated to his medical organization, where it may be activated. From the medical organizations it asks a proportional activity in the control of Child Labor and a scientific consideration of all its phases, the psychologic and social factors, as well as the physical. The place of the doctor in the social scheme is logically an important one, and perhaps better than any other, he may be able "to see life whole" on the subject of Child Labor.

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THE SERIOUS PROBLEM OF VENEREAL DISEASES

Hesitancy on the part of the medical profession, as well as the press and the public at large, to discuss the serious problems of venereal diseases openly was blamed for the backwardness of communities in co-öperating to control these diseases in the opening address by Dr. B. Franklin Royer, Medical Director of the National Society for the Prevention of Blindness, before the regional conference on social hygiene held in Louisville, Ky., under auspices of the American Social Hygiene Association, Oct. 11-13.

Approximately 15 per cent. of the 100,000 blind persons in the United States are without sight because of syphilis, one of the venereal diseases, declared Dr. Royer whose subject was "Awakening the Community to Its Social Hygiene Needs." Public health authorities and social welfare agencies now regard the preventive program for control of venereal diseases as of more importance to society than the cure of existing cases, he pointed out.

"Had physicians been less reluctant to talk frankly and truthfully about the great burdens of human misery incident to venereal diseases it is altogether likely that communities would already have been more awake to their social needs in these particulars and they would have been able to visualize their problems in relation to cause and effect," said Dr. Royer. "It has only recently become possible to discuss these problems frankly before organizations committed to social programs and even at this time they may only be discussed with considerable discretion before lay audiences not devoted to social activity.

"We are not content today with simple statements as to the amount of human suffering from each particular type of inflammation; we are not so much concerned with the amount of insanity, imbecility, blindness, or paresis as may result, as we are concerned with how much of this wreckage may be averted. In this preventage age we are greatly concerned with how much of the menace may be averted by educational measures—in all of the broadest sense of education, how much may be averted by general hygienic procedure, and how much may be averted by inculcating a higher moral standard and appealing to the spiritual side of the individual."—*Bulletin of the National Society for the Prevention of Blindness.*

MEDICAL PROGRESS

PROGRESS IN TUBERCULOSIS

BY JOHN B. HAWES, 2ND,* M.D., AND MOSES J. STONE, M.D.*

As usual there has been an immense amount of writing on the subject of tuberculosis during this past year. Interest in diagnosis has been awakened by the "Early Diagnosis Campaign" conducted by the National Tuberculosis Association this spring. Fewer so-called specifics have been brought forth, the question of hilum tuberculosis is still a matter of dispute as to diagnosis though not so as to treatment. Ultra-violet ray medication has reached a point where a curb is sadly needed while the after care of consumptives by means of work shops, placement organizations, etc., is being recognized as an essential factor in treatment. The interest of the general practitioner in tuberculosis work is apparently on the increase which in itself is a sign of real progress.

DIAGNOSIS

Voorsanger, W. C. and Firestone, F. (*J. A. M. A.* Oct. 1, 1927, LXXXIX-1137) present a study of 200 patients with chronic cough with a negative sputum, 37% infectious bronchitis and asthma, 38% hilum thickening, fibrosis and potential bronchiectasis cases, 25% miscellaneous, heart, neurasthenia, malignant, etc.

Rist, E. (*Rev. d. l. Tuberc.* Oct. 1926, VII-705) discusses the errors in diagnosis of tuberculosis during the war when vastly fewer men were eventually found to have tuberculosis than were originally diagnosed as such. Chief sources of error were (1) chronic, non-tuberculous pulmonary lesions, (2) cardio-vascular disorders especially mitral stenosis and thyrotoxicosis, gastro-intestinal affections and physical fatigue and worry. Infections of upper respiratory tract are not sufficiently gone into.

Heise, F. H. (*Am. Rev. Tub.* April 1928, XVII-4) finds râles present in only approximately 50% of cases of minimal tuberculosis admitted to the Trudeau Sanatorium. Râles are *not* essential in the early diagnosis.

Heise, F. H. (ditto) finds as a general rule that *disappearance* of râles and x-ray and clinical improvement go hand in hand but that it by no means follows that a patient cannot improve and yet have râles remain present.

These last two articles by Heise are of very real practical importance.

Meader, C. N. (*J. A. M. A.* July 17, 1926, LXXXVII-139) describes a condition which he calls "non-tuberculous peribronchitis." This may closely resemble the "concealed tuberculosis" as described by Head, or "occult tuberculosis" according to Sewall. He attempts to make a definite clinical entity out of this describing the x-ray findings, etc.

He writes enthusiastically but *not* soundly. The article is *not* convincing. The vast majority of students of this subject are unwilling to accept this new clinical entity as described by Meader.

*For record and address of author see "This Week's Issue," page 903.

Sieper, H. (*Beitr. z. Khn. d. Tuberk.* 1926, LXIV-320) describes a stage when tuberculosis is latent as a fairly definite one in the course of tuberculosis.

Loeper, M. (Prog. Med. Dec. 25, 1926, 53-2010) describes *latent tuberculosis* as a form of *tuberculosis* and a *stage* in its course designated by a variety of terms such as "suspicious apices," "suspected bronchitis", or "incipient tuberculosis." There are four types (1) truly occult tuberculosis, (2) hilum tuberculosis, rare in adults, (3) pleural tuberculosis, and (4) truly *latent* tuberculosis.

Hoffman, A. (*Deutsche Med. Wochenschrift*, Sept. 1926) believes that examination of the sputum and the roentgenograph should quickly clear up the diagnosis of pulmonary diseases associated with hemoptysis, such as fibrinous bronchitis, influenza, pneumonia, bronchiectasis, leukemic foci of the lung, pulmonary abscess, gangrene, tumors, mycoses, syphilis and so forth. However, cardiac cases are frequently diagnosed as tuberculous, especially when there is chronic passive congestion. He suggests that the absence of tubercle bacilli and the presence of signs and symptoms of mitral or other cardiac disease should usually prevent such a mistaken diagnosis.

Milani, G. (*Tubercolosi*, Aug. 1926) enumerates other diseases besides pulmonary tuberculosis that may account for a pulmonary hemorrhage. He mentions thermal and chemical agents as well as gas, acids, or ether that may provoke bleeding by their irritant action on the mucous membrane of the respiratory system. He also mentions besides the usual causes as bronchiectasis, pulmonary abscess, gangrene, malignancy and syphilis certain parasitic diseases. Thus in Italy the echinococcus is often encountered. In Japan and China the diastomawestermanni, pulmonary diastomiasis of Boelz and pulmonary gregarinosis. He also states that hemoptysis has been described also in cases of hysteria, chorea, epilepsy, and in non-tuberculous lesions of the spinal medulla and brain.

The fact still remains, however, that the vast majority of cases of hemorrhage from the lungs are caused by tuberculosis and very few cases of frank hemorrhage by mitral stenosis.

Bendove, R. A. (*J. A. M. A.* Nov. 20, 1926) studying 145 cases of definite pulmonary cavitation determined by roentgenoscopy and roentgenology to determine the frequency of occurrence of text book signs of cavitation found the following; about one-half of all pulmonary cavities in tuberculosis are silent, that is, they lack all the classical signs of cavitation as given in any standard text book on physical diagnosis. There is as yet no single sign which could be considered pathognomonic for such cavities, but a certain group of signs taken collectively, speak strongly of the presence of cavitation. Broncho-vesicular breathing or harsh inspiratory sound with moist bubbling râles over a limited area in any zone of the pulmonic field below the second rib is very suggestive of a cavity. The prognosis of these cavities varies; the small absolutely mute cavities are of a much more favorable prognosis than the relatively silent cavities with changeable physical signs. When the patient gives a history of a stormy course of short duration and a relatively silent cavity with ragged capsule is found it bespeaks a poor prognosis.

Amberson, H. B. (*Am. Rev. Tub.* Feb. 1928, XVII-2) believes the evidence is in favor of regarding all

except traumatic pleurisies as *tuberculosis* and deplores the modern tendency to overlook a single dry pleurisy of short duration. He believes that as a primary disease it is rare. Pleurisy with effusion is *always* tuberculous but is a mild and curable form and if it occurs in childhood offers increased immunity.

We are all of us gradually coming to Amberson's opinion, namely, that almost all idiopathic pleurisies wet or dry are tuberculous.

Heise, F. H. and Brown, L. (*Am. Rev. of Tub.* May 1928, XVII-5) discuss the diagnosis of pleurisy and limitation of x-ray in making it. In many cases the pain in the chest, presumably due to pleurisy, cannot be satisfactorily explained on this basis.

Jessen, F. (*Am. Rev. Tub.* Aug. 1927) suggests that tuberculosis can be eradicated only when the disease is recognized before we get open or positive sputum cases. Among the early signs and symptoms of early tuberculosis he suggests a fine red injection of the borders of the eyelashes, a fine red injection of one or both cheeks that is characterized by its very sharp border, atrophy of the trapezius muscle, neuritis of the muscles, round back, fatigue, loss of weight, anemia, low blood pressure, gastric disturbances, dysmenorrhea, and a short dry cough.

Jessen certainly is an example of a physician carrying his points in diagnosis to an absurd extreme.

Castelani, A. (*Am. Rev. of Tub.* Nov. 1927) in a lengthy article shows that bronchitis and broncho-alveolitis of fungal origin may not be as rare as hitherto thought to be. He found the condition not to be very rare even in temperate climates. He warns, however, that secondary broncho-mycoses are quite common and hence the mere finding of a fungus in the sputum is not sufficient to establish a diagnosis of primary broncho-mycoses. He urges that every possible investigation should be carried out to exclude tuberculosis.

Hamman, L. (*Am. Rev. of Tub.* Nov. 1927) finds that pneumo-mycosis in most instances is mistaken for tuberculosis and can be distinguished from it only with difficulty. This difficulty is increased by the fact that the two diseases are often combined. He gives the following differential points (1) constitutional symptoms characteristic of tuberculous disease may not be so marked in fungus infection, (2) in fungus infections the progress of the disease is sometimes extremely slow and is marked by the development of extraordinary fibrosis, (3) tuberculous lesions in adults nearly always involve one or both upper lobes. Pulmonary disease involving only the lower part of the lungs is seldom tuberculosis. Since fungi frequently cause lesions near the hilum or in the lower lobes the location of the disease is sometimes an important help in diagnosis.

Smith, D. T. (*Am. Rev. of Tub.* Nov. 1927) believes that pulmonary gangrene, most cases of pulmonary abscess, certain types of unresolved pneumonia and bloody bronchitis, putrid bronchitis and primary bronchiectasis are not separate disease entities, but only different manifestations of infection with a specific group of anaerobic micro-organisms. He found spirochaetae, fusiform bacilli, vibrios and cocci in the gums of patients suffering with those infections, also in the washed sputum as well as in the pulmonary tissue at necropsy. When the author introduced scraped material from the alveolar border of the teeth in cases of moderately severe pyorrhea into the trachea of anaesthetized mice, guinea pigs and rabbits, a variety of pulmonary infections resulted which resembled very closely the acute and chronic manifestation of fuso-spirochaetal disease in man.

Forbus, W. D. (*Am. Rev. of Tub.* Nov. 1927) concludes that pulmonary infections by sporotrichum are extremely rare and that visceral lesions of any kind are almost unknown in this disease. He therefore feels that because of the rarity of visceral lesions in sporotrichum infections little attention need be paid to the probability of such infection in the differential clinical diagnosis of obscure pulmonary conditions.

Chapman, E. N. (*Am. Rev. of Tub.* April 1928, XVII-4) discussing errors in diagnosis of tuberculosis by the general practitioner, finds that the situation although by no means satisfactory has improved during the past 10-15 years. Lack of routine examination, lack of thorough chest examinations, of temperature and pulse observations and of x-ray, and hurry, are the chief factors in bad diagnoses.

Miller, J. A. and Eglee, E. P. (*Am. Rev. of Tub.* July 1927) feels that the use of lipiodol injections should be limited to conditions in which they are likely to give information which is not obtainable by ordinary roentgenograms. They find that there is at present a tendency to use them rather indiscriminately and consequently in a considerable number of these cases they probably give no new knowledge. They found the use of bronchograms to be especially valuable in the diagnosis and study of bronchiectasis particularly in lesions situated behind the heart and below the level of the diaphragmatic shadow. They also found it of value in differentiation of cavities, open pneumothoraces and associated bronchiectasis, also in thoracoplasty in giving a clearer picture of the shadows which may remain hidden in ordinary x-rays. They found that it gives very little additional knowledge in diagnosis of abscess and tumor of the lung, also in such diseases as asthma, bronchitis and the majority of cases of pulmonary tuberculosis. Hence they advise against its indiscriminate use.

Archibald, E. and Brown, A. L. (*J. A. M. A.* April 23, 1927) deprecate the wide use of lipiodol injections as they found some definite potential dangers accompany the intratracheal injection of iodized oil. They reached the conclusion that the introduction of iodized oil into the trachea or bronchial system carries with it a certain definite degree of danger from various sources which should be weighed before patients are subjected to its indiscriminate use.

Prichard, S., Whyte, B., Gordon, J. K. M. (*J. A. M. A.* April 16, 1927) from an experience of 600 cases find that by injections of iodized oil into the bronchial tree small bronchiectatic dilatations may be revealed in many cases of chronic cough which previous examination failed to disclose, also that the entire bronchial tree cannot be visualized at one injection and must be injected serially in small injections. They believe that in the majority of cases the supraglottic method of injecting the pulmonary root and descending branches of the bronchial tree gives results quite as satisfactory as other methods.

Chandler, F. G. (*Brit. Med. J.* Feb. 5, 1927) urges the introduction of lipiodol through the crico-thyroid membrane. He found that lipiodol injections enable us to diagnose and localize bronchiectatic dilatations with certainty, moreover in many cases it is the only method of confirming the diagnosis, it also enables to distinguish bronchiectasis from lung abscess, from empyema with a broncho-pleural fistula, and from tuberculosis. However, in regard to the diagnosis of lung abscess and empyema with pleural fistula the help is of negative character.

Pirie, A. H. (*Am. J. of Roentgen. and Radiology*, Dec. 1926) feels that there is so little information obtainable from a plain roentgen examination of a case of thoracoplasty, due to collapsed lung and thickened pleura, that lipiodol in showing bronchiectasis and cavities may be a valuable aid for devising an improvement in technique in the operation, it perhaps being advisable to attempt a further collapse

of the lung when a large cavity is demonstrated after thoracoplasty.

A note of conservatism in regard to the use of lipiodol is welcome. Many of us are yet to be convinced that it is a necessary procedure or that it adds much information which cannot be obtained in other safer ways.

Sante, L. R. (*Radiology*, June 1926) claims that x-ray demonstration of thickening of the interlobar pleura is as valuable a roentgenographic sign of early apical tuberculosis. He states that the lymphatics draining primary tuberculous foci become engorged and when drainage is centralward produce a fanlike thickening (Dunham's Fan) and when peripheralward, a thickening of the pleura, the thickening occurring both very near the diseased area and along the shortest pleural route to the hilum, i. e., the interlobar pleura.

MacRae, J. F. (*Radiology*, May 1926) makes a plea for a closer association between the physician and roentgenologist in the interpretation of plates in hilum tuberculosis. He advocates repeated plates as enlarged lymph nodes may undergo resolution or caseation fibrosis or calcification. Subsequent plates may therefore show a lessening in the size of a disappearance of the nodal shadows or they may show signs of extension of the process into the neighboring pulmonary tissue or a widespread miliary tuberculosis.

Hickey, P. M. (*J. A. M. A.* Sept. 3, 1927, LXXXIX-776) urges adaptation of uniform x-ray standards in reporting on lung conditions.

Austrian, C. R. (*Am. J. Med. Sc.* June 1927, CLXXIII-753) emphasizes present chaotic conditions especially in x-rays of children. He enumerates the well-known uses of x-ray in adults as well as the limitation of the x-ray. It should *not* determine *activity*, for instance.

Bendove, R. A. (*Am. J. Med. Sc.* March 1927) urges the use of roentgenology as a means of studying the mechanism signs of the chest and its diagnostic and prognostic significance. Thus he found that about 50% of pulmonary cavities are silent as to the classical signs of cavitation; of these few are absolutely mute, not revealing themselves by any adventitious sounds, but most of them can be detected by combination of symptoms, such as modified breath sounds with moist inspiratory râles heard over an isolated area of the lung. The presence of amphoric breathing indicates a pleuro-visceral opening. As soon as the opening closes the amphoric breathing disappears and the lung begins to re-expand as can be observed roentgenoscopically. The varying physical signs of pneumothorax in the same side of the chest are determined by the modified pneumodynamics and the localization of gas in that pleural cavity. He concludes that roentgenoscopy, roentgenography, and stereoroentgenography could be used advantageously in the study of the mechanism and physical signs of many other chest abnormalities.

Last year many articles were written on sanocrysin and other alleged specifics; recently, however, this subject has faded into the background where it belongs.

McLusky, K. L. and Eichelberger, L. (*Am. Rev. of Tub.* Sept. 1927) find that gold may be found in the urine from a hundred to a hundred and thirty days after sanocrysin treatment. They also found that sanocrysin appears to cause a disturbance in the water balance of the tuberculous patient and that the total acid excreted in the urine of far advanced tuberculosis patients is below normal. However, the excretion of acid bodies as estimated by the determination of total acidity pH and ammonia in the urine was found not to be altered by sanocrysin.

Levenson, S. A., Peterson, W. F., and Milles, G. (*Am. Rev. of Tub.*, Nov. 1927) experimenting on normal and tuberculous dogs by means of lymph analysis following the injection of sanocrysin found that it may have an effect similar to tuberculin when given in small doses (transient stimulation followed by relative impermeability) or may be followed by a more severe toxic effect associated with marked changes in the K/Ca ratio and in the volume and concentration of the lymph flow and so forth. They found that the effects on normal dogs are much less marked than on dogs with tuberculous lesions.

JUVENILE TUBERCULOSIS

Much work has been done on hilum tuberculosis from every angle. Gradually, but only very gradually, x-ray men, pathologists, pediatricians and internists in tuberculosis are coming to an agreement.

Chadwick, H. D. (*Am. Rev. of Tub.* April 1928, XVII-4) discusses in a sane and sound manner the great value of a careful x-ray examination and study in the diagnosis of hilum tuberculosis.

Myers, J. A. (*J. A. M. A.* May 7, 1927, LXXXVIII-1457) discussing diagnosis of juvenile tuberculosis believes that there are more than 55% of children infected before the 15th year. "Signs" and physical examination are of little avail and are rarely in agreement with the x-ray findings. Chronic *non-tuberculous* foci of infection especially those of sinuses must be considered.

McPhedran, F. M. (*Am. Rev. of Tub.* Oct. 1927) finds that swollen oedematous lymph nodes that result from acute respiratory infection cast no recognizable shadow in the films. He concludes that the diagnosis of tracheobronchial tuberculosis with rare exceptions, and these tentative, should be based on the clearly defined shadows of infiltrations of calcium.

McPhedran, F. M. (ditto) suggests that the significance of an anatomical tracheobronchial lesion is to be determined partly by the character of the calcium shadow and partly by the tuberculin reaction. He feels that a soft delicate shadow suggests an unstable lesion and the advisability of careful supervision of the patient despite a faint tuberculin reaction. If the tuberculin reaction is strong the necessity for a modified life is distinctly indicated.

Opie, E. L. (*Rev. of Tub.* Oct. 1927) finds that severe latent tuberculous lesions are encountered with the greatest frequency in families in which some member is suffering from open tuberculosis and their frequency increases with the duration of exposure. He feels that roentgenological examinations of young children in families exposed to tuberculosis will reveal the severer forms of latent tuberculosis of the tracheobronchial lymph nodes at a time when they are still unhealed. He suggests that routine examination of adolescent children exposed to open tuberculosis may result in the discovery of latent apical lesions and perhaps in some instances changes shown roentgenologically may direct attention to lesions which are accompanied by inconspicuous symptoms or intermittent physical signs.

Hetherington, H. W. (*Am. Rev. of Tub.* Oct. 1927) basing his article on examination of 1999 children between the ages of 5 and 16 finds that the weight below normal is not more frequently found in children in whom latent tuberculous infection is shown by a sensitiveness to tuberculin than those who give no skin reaction. He also found no evidence of underweight in children with latent tuberculous nodules of the lung demonstrated by roentgenograms. He concludes that underweight has little if any value in the diagnosis of latent tuberculous infection.

The value of *underweight* in the diagnosis of juvenile tuberculosis has undoubtedly been greatly exaggerated.

Clifford, R. (*Boston Med. & Surg. J.* Sept. 16, 1925) gives the following well-known diagnostic points in relative order of importance: (1) history, (2) constitutional signs and symptoms, (3) physical examination, (4) x-ray, (5) tuberculin reaction. Under the heading of History he stresses the following points: (1) undue fatigue, (2) irritability and changes of temperament, (3) underweight, or failure to gain weight, (4) intermittent fever. He finds physical examination to be of limited importance and x-ray only in so far as it excludes parenchymatous lung conditions.

Reisman, H. A. (*Arch. Ped.* March 1927) classifies tuberculous children in the following groups: (1) children who give a definite history of contact, but with negative tuberculin test, (2) children with a definite history of contact and a positive tuberculin test, but with no definite evidence of disease and no appreciable enlargement of the tracheobronchial lymph nodes, (3) incipient tuberculosis of childhood, those giving a definite history of contact, a positive tuberculin test and a slight enlargement of the tracheobronchial lymph nodes as ascertained by x-ray, (4) massive enlargement of the tracheobronchial lymph nodes, fibrosis and calcification and a positive tuberculin test, (5) adult type, parenchymal infiltration and breaking down of lung tissue with a tendency to cavity formation and with definite physical signs superimposed upon the juvenile type.

Baum, F. and Mebel, S. (*Am. Rev. of Tub.* Oct. 1927) find in hilum lymph node tuberculosis the roentgenograms show the demarkation sharper, irregular and curved, showing the confluence of several enlarged medullary swollen lymph nodes of the pulmonic root. When the disturbances of the pulmonary circulation are caused by patency of the ductus arteriosus Botalli, a pulsation of the hilum shadow is noticed fluoroscopically in unison with the pulsation of the pulmonary artery. The density of the hilum in cases of patent ductus arteriosus is increased at the beginning and decreased at the end of expiration.

Carrell, W. E. and Gibson, C. B. (*Am. Rev. of Tub.* Oct. 1927) find that Baum's position relative to the encroachment upon the interspace between the hilar shadow and the heart shadow is of great anatomical-pathological importance. They believe it to be the most characteristic finding in enabling one to determine whether or not hilar shadows should be regarded as of clinical significance. They feel that it is less apt to be of merely historical interest than definite hilar calcification.

The work of Baum in regard to the interpretation of certain hilar shadows in the x-ray has not as yet been fully accepted.

Opie, E. L. (*J. A. M. A.* Oct. 15, 1927, LXXXIX-1293) urges further consideration of hilum tuberculosis and other considerations of early infections in childhood. 80% of children in our large cities are infected by the 12th year.

Donnelly, W. H. and Reismann, H. A. (*Arch. Pediat.* June 1926, XLIII-386) believe x-ray of little value in diagnosing tuberculosis of the bronchial glands; they have faith in d'Espine's sign as significant of *enlarged glands* and feel that a history of contact, a positive tuberculin test and d'Espine's sign are sufficient to make a diagnosis.

They might very well omit the d'Espine's sign.

Mikulowski, V. (*Ann. d. Med.* Jan. 1926, XIX-67) believes the problem in diagnosis of bronchial gland tuberculosis is purely one of deciding whether the glands are or are not tuberculous.

Mikulowski is undoubtedly right as to this.

Green, B. and Forbes, R. F. (*Archives Ped.* Jan. 1927) found 65% positive tuberculin reactions in children having a definite history of family exposure and only 19% in those with no family contact. They found no definite relation between either the incidence or the degree of malnutrition and tuberculosis infection.

Gittings, J. C. et al. (*J. A. M. A.* Oct. 22, 1927, LXXXIX, 415) believes in *non-specific treatment* along hygienic constitutional lines in cases of juvenile tuberculosis. Sunlight, artificial and real, is of value but must be used with care.

TREATMENT

Delmege, R. (*Lancet*, Oct. 30, 1926) feels that tachycardia in all cases of early uncomplicated phthisis may wisely be considered as a manifestation of activity until satisfactory evidence to the contrary is obtained. He suggests that no cases should be thought of as quiescent as long as tachycardia exists, even though the clinical course has been entirely apyrexial.

Mariette, E. S. (*Am. Rev. of Tub.* August 1927) stresses the importance of prolonged bed rest treatment long after all symptoms of activity have disappeared. He thus figures that more than 80% of all sanatorium patients should be on bed treatment. He reviews briefly the role of artificial pneumothorax, phrenicotomy, and thoracoplasty in the treatment of this disease. Concerning artificial pneumothorax the author quotes Riviere who says that "No more hopeful ray of sunshine has ever come to illumine the dark kingdoms of disease than that introduced into the path of the consumptive through the discovery of artificial pneumothorax". The author gives the percentage of his cases that have definitely improved or been cured by extra pleural thoracoplasty as 65. He also urges the use of heliotherapy in chronic fibroid cases.

Russell, J. F. (*Am. Rev. of Tub.* August 1927) states that average patients with an evening temperature of 100 may continue their customary occupations without harm while being treated. He further states that treatment consists in teaching habits of living which increase strength and resistance with the indispensable provision that it shall not interfere with the patient's occupation. He claims that dispensary treatment is as successful as sanatorium treatment in bringing about arrest of disease, with many advantages in favor of dispensary treatment.

Russell of "Russell Emulsion" fame in this article and in others that he has written makes statements that are "interesting if true". That patients with an evening temperature of 100° may continue at their work and that an indispensable provision of treatment is that it shall not interfere with the patient's occupation are examples of this.

Pratt, J. H. (*Am. Rev. of Tub.* Aug. 1927) describes his home and class treatment of tuberculosis patients. He finds that adequate medical care is possible in the homes of poor patients. Prolonged bed rest in open air was followed by arrest of the disease and restoration of wage earning power in 126 of his 312 patients. He feels that the work had a preventive as well as a curative value, since only two of the 88 children in 44 families that were followed from 5-21 years developed clinical tuberculosis.

Pratt continues to write on the advantages of home treatment and doubtless will keep on doing so. In the meantime the rest of the medical world still believes in adequate prolonged sanatorium care when possible.

Hawes, J. B. (*Boston Med. & Surg. J.* Sept. 16, 1926) emphasizes the great need for aftercare and rehabilitation of the tuberculous patient. He urges very strongly the need of occupational therapy departments and pre-vocational training schools. He suggests that patients should be strongly persuaded not to leave the hospital or sanatorium without their physical and mental ability to work having been first tested.

Joress, M. H. (*Boston Med. & Surg. J.* Sept. 16, 1926) shows that the sanatorium itself can play an important part in the after care and rehabilitation of the patient. He cites that Rutland State Sanatorium where 50%-65% of its workers are ex-patients he shows also the definite benefit of a nurses' training school in connection with a sanatorium as a place for employment of its female ex-patients.

Watt, J. (*Brit. J. of Tub.* Oct. 1926) urges the initiation of settlements and colonies for tuberculosis patients with the sanatorium as a nucleus. He feels that the financial success of such an undertaking depends largely on such factors as an assured market for the output, shortness of training period, simple machinery and careful selection of foremen.

Allen, G. W. (*J. of State Med.* March, 1927) urges the establishment of urban centers for the employment of the ex-patient. He deplores the fact that some patients are urged to do farming as it is the hardest work and the least remunerative. He feels that urban workshops would disturb as little as possible the environment and previous occupation of the patient.

Varier-Jones, P. C. (*J. State Med.* Jan. 1927) on the other hand, feels that the tuberculous convalescent is a damaged individual and should in most instances not be returned to an environment that is likely to produce a relapse, but should rather be allowed to live a sheltered life in a village settlement where light work is available for the shorter or longer hours it is deemed wise for him to work.

Thorburn, G. (*Am. Rev. Tub.* March 1928, XVII-3) believes that the estimation of the working capacity of tuberculous patients is a most important problem. There should be more in the way of occupational therapy and shop training work that will stimulate the patient's ambition instead of merely a 10-minute or one hour walk. After-care and placement work are most important factors in his treatment and training.

McDougall, J. B. (*Tubercle*, April 1927, VII-301) describes the development of occupational therapy for patients in a small tuberculosis sanatorium in England consisting of rabbit and pig raising and other activities. (A crude attempt but in the right direction.)

Bardswell, N. D. (*J. State Med.* Dec. 1926, XXXIV-724) describes an urban workshop, the *Speroleather Workshop* in London, in operation three years and with only tuberculous employees. He emphasizes the need of investigation of *home conditions*. Work must not be too hard *physically*. Find the *market* first and supply it rather than the reverse.

This is a good article, sound and sane.

All these articles on occupational therapy, after care and rehabilitation represent the greatest step in advance in treatment that has taken place for years.

Watson, S. H. (*J. A. M. A.* Sept. 25, 1926, LXXXVII-1026) urges conservatism in heliotherapy and that it be under medical supervision always. Many physicians are using it without proper training or experience with it. There is a great deal we do not know about it. It is *not* good for pulmonary tuberculosis.

Watson's ideas on this are thoroughly sound.

Wood, J. E. (*Lancet*, Aug. 21, 1926, CCXI-372) does *not* feel that heliotherapy is unsafe in pulmonary tuberculosis. He bases his observations on only 21 cases, 15 of whom improved.

This is absolutely bad advice.

Bullock, E. S. (*Am. Rev. Tub.* Apr. 1928, VIII-4) sounds a very welcome warning in regard to the use of light, real and artificial, in tuberculosis. "If Nature intended us to get very large doses of chemical light she would have put more of these rays in the sunlight or at least have prevented our tanning to keep them out."

Bullock's ideas are a welcome contrast to those of Wood.

Krusen, F. H. (*Am. Rev. Tub.* Aug. 1927) feels that heliotherapy properly administered (preferably by the Rollier method) is of value in pulmonary tuberculosis. He found that expectoration is apparently easier and slightly increased during the early stage of sun cure, which stage is followed by a diminution in the amount of sputum and amount of moisture in the lungs. He noted that hemoptysis is not a contraindication to heliotherapy, also that patients whose skins pigment well seem to be most benefited by sun therapy.

Brown, L. and Sampson, H. L. (*J. A. M. A.* May 7, 1927, LXXXVIII-1472) believe that they have demonstrated the curability of intestinal tuberculosis and they describe the results of their treatment with artificial heliotherapy which they strongly believe is by all means the most effective method of treatment.

Much has been written on pneumothorax and chest surgery but mostly of a technical nature. The principle of compression and collapse has now been definitely accepted.

Mario, T. (*Tuberculosi*, Nov. 1926) feels that artificial pneumothorax is the best and only treatment for protracted hemorrhages. The only contra-indication he finds is a tenaciously adherent pleura, and on these cases there remains the operation of Sauerbruch.

Parodi, F. (*LaGusta*, Oct. 1926) feels that artificial pneumothorax if carried out early in the disease is a definite method for absolute cure clinically as well as anatomically. He claims that it will prevent local and general pulmonary sclerosis and will favor the formation of a retractile scar.

Lichtwitz, O. (*Wien. Khn. Wchnschr.* April 28, 1927, XL-555) report on the use of various drugs in pulmonary hemorrhage without striking results.

One might well ask the question why consider any drugs except atropine and drugs at all if pneumothorax is possible.

Mariette, E. S. (*Am. Rev. Tub.* May 1928, XVII-5) discusses the problems of feeding tuberculous patients in a sanatorium. He emphasizes that it is diet plus *rest* that is important, a well balanced diet and not so much milk and eggs! It should be the same for the tuberculous as for the non-tuberculous patient. Mere gaining weight alone will not necessarily do good. 3000 calories daily, ½ pint milk at each meal and at bedtime is sufficient. Attractiveness of the trays is essential. Individualize as much as possible.

Conrad, M. (*Ztschr. f. Tuberk.* 1926, XLVI-132) believes an attempt should be made to make the blood alkaline in tuberculosis. Fatigue and other toxins tend to make it unduly *acid*. A proper diet restricting meat and sugar is best to bring this about.

Lacny, P. (*Wien. klin Wchnschr.* 1927, XL-1025) believes in a diet which prevents *demineralization*. According to his diet fluids are limited and salt limited. He gives 26 illustrative cases.

This is in no way conclusive.

Apitz, G. (*Deut. Med. Wchnschr.* June 10, 1927, LIII-1003) reports on his work on a salt free diet in tuberculosis with no beneficial results.

Monceux, R. (*Prog. Med.* Dec. 25, 1926, 53-2013) believes that tuberculosis is a disease of nutrition due to an *acid intoxication*. Vary the diet, make it pleasing to taste and smell, well balanced.

His ideas are sound but based on false or unproven premises.

ETIOLOGY

Ronzoni, (*Am. Rev. of Tub.* Jan. 1927, XV-1) discussing the communicability of phthisis on adults while admitting that adult infection is possible and that all measures to prevent it should be carried out vigorously, in a long and careful article which should be widely read confirms the general belief already existing that most tuberculous infections are of juvenile origin.

Brown, L. (*Am. Rev. of Tub.* Jan. 1927, XV-1) discussing the communicability of phthisis is convinced that somewhere between 20%-40% of adult infections are due to infection *after puberty*.

Maher (*Am. Rev. of Tub.* Jan. 1927, XV-1) studying in detail 200 cases believes that in not more than one per cent. was there evidence that adult infection had taken place.

Bernard, L. and Denoyelle, L. (*Ann. de. Med.* 1926-561) after a study of 300 adults with pulmonary tuberculosis conclude that adult tuberculosis is in a great number of cases the result of early primary infection. They found in their studies that only a very few infants survive the primary infection and they are always in great danger, as the survivors make up the greater part of clinically tuberculous adolescents and adults. As for the rôle of contagion in the adult, while it is not negligible and while every precaution must be taken, nevertheless, it is exceptional and efforts at prophylaxis should bear essentially on the protection of children and within the family circle.

Collis, E. L. (*Tubercle*, Nov. 1926) finds that phthisis mortality in late middle life is an expression of lowered resistance to tuberculous infection owing to the fact that the lungs have become damaged pathologically. He concludes that such pathological damage is an end result of overstrain resulting from chronic fatigue or at least of industrial life which appears in the past to have engendered a condition in middle life favorable to chronic phthisis. He suggests, therefore, that the age of the patient should be as important a factor in determining treatment as is the clinical condition, that is, to stimulate anabolism in patients up to 30 years of age and prolong rest in the case of patients in middle life.

Asserson, M. A. (*Am. Rev. of Tub.* Oct. 1927) finds from a very large statistical study that the incidence of infection and disease found among hospital and clinic children is almost four times as great as that found among well patients attending the baby health stations. He concludes that the infant's resistance to tuberculous infection is better than it was formerly believed to be; on the other hand, infants' lack of resistance to tuberculous disease appears to be relatively low; a fact long recognized. He advocates the removal of the sick patient from the home whenever possible and the establishment of "infantoriums" or "boarding out care" for children when the removal of the patient is impractical.

Biemann, F. (*Beitr. z. Khn. d. Tub.* 1926, LXIII-1) finds in his study of 345 cases of open tuberculosis that the consort was infected in 4.3%.

Minnig, A. (*J. A. M. A.* Nov. 1927, LXXXIX-1774) reviews *5000* cases and finds incidence of conjugal tuberculosis at 16.8%.

There still seems to be a wide difference of opinion as to the dangers of adult infection and the risk run by the healthy husband of a tuberculous wife and vice versa. In the meantime we might well urge our patients so situated to be extremely careful.

MISCELLANEOUS

Brock, B. L. and Haskins, C. H. (*Am. Rev. of Tub.* July 1927) found that the basal metabolism of tuberculous individuals may be normal or below the average normal. They also found a decrease in basal metabolism in summer as compared to winter. Exposure of tuberculous subjects to atmospheric conditions prevailing in winter causes an immediate temporary rise in metabolism with a subsequent fall. The authors feel that although not definitely proved it would seem that no extra work is thrown on the lungs of tuberculous patients curing out-of-doors in winter or summer and that the mild stimulation they receive therefrom may be of definite benefit to them.

Habliston, C. D. and McLean, W. O., Jr., (*Am. Rev. of Tub.* July 1927) reviewing a large series of cases of tuberculosis with co-existent syphilis find that syphilis as a latent condition has shown little effect on the course of pulmonary tuberculosis, the result obtained being comparable with those in non-syphilitic tuberculous patients. However, syphilis as an active disease, they found to be a decidedly unfavorable influence on the course of pulmonary tuberculosis. They have secured beneficial effects of treatment with arsenicals without untoward effect on the tuberculous disease. By their use they found a decline of 14.5% in the mortality and an increase of 9.8% in improvement.

Bierman, M. I. (*Radiology*, Feb. 1926) reports two cases of healed miliary tuberculosis for the cases where the x-ray shows calcified areas of tubercle, all the same size and the same degree of calcification and uniform distribution. The term, chronic miliary tuberculosis, he uses when the plate shows a miliary stippling of areas of different size and of different degree of calcification and therefore of varied age.

Rist, et al. (*Prog. Med.* June 12, 1926, 24-929) report three cases of chronic miliary tuberculosis, two of which recovered.

Maxeiner, S. R. (*Am. Rev. of Tub.* March 1928, XVII-3) believes that under local anaesthesia tuberculous patients stand surgical operations very well and that every institution for pulmonary tuberculosis should have some physician on its staff trained in treatment and diagnosis of non-tuberculous disease.

Kolf, P. (*Deuts. Med. Wchnschr.* May 13, 1927, LXVI-836) repeats the classic experiment of having patients with a positive sputum cough on glass slides 20-60 c.m. away from mouth with the result that 50% of slides showed tubercle bacilli present.

Zollinger (*Deutsch. z. tschr. f. Chir.* 1926, CXCLX-11) in studying 85,623 accidents out of which in 157 the question of tuberculosis as a causative factor arose found only 1.5% in which the relation between accident and tuberculosis could not be disputed.

The question is not one of possibility but one of probability, however.

Zollinger (*Deutsch. z. tschr. f. Chir.* 1926, LXIV-1) discusses the same question. He does not believe

that injury of a *normal* lung favors deposition of tuberculosis.

Henius, K. and Riehert, O. (*Ztschr. f. tuberk.* 1926, XLVI-123) reports results of experiments in animals on inhalation of pure coal dust on normal lungs and on tuberculous lungs and finds no increase in connective tissues nor any changes in the already existing tuberculous process.

This article is of distinct interest and importance.

Guinard, U. (*Thesis, N. Maloine*, Paris 1925) reports on the end results in cases of 831 men with a positive sputum from a high-grade sanatorium in France. He believes that the *presence* or *absence* of tubercle bacilli is of vast prognostic importance. "The duration of survival is inversely proportional to the number of positive sputa in the course of regularly and frequently repeated examinations."

This article while a bit radical and hyperenthusiastic is on the whole sound.

HEALTH HAZARDS IN CHROMIUM PLATING

During the past few years chromium plating has developed rapidly, and it is now being extensively employed in finishing automobile parts and plumbing fixtures, because of its high luster and resistance to tarnish; and upon printing plates, gauges, tools, and dies on account of its extreme hardness. The bath used for chromium plating consists principally of chromic acid. During the plating process, considerable hydrogen and oxygen are liberated, and these carry a spray of chromic acid into the air. These facts prompted the U. S. Public Health Service to make a study of health hazards in chromium plating, in which it was assisted by the Bureau of Standards.

It has long been known that, in the manufacture of chromic acid and chromates, the operators are subject to attack by an ulcerative process and perforation of the nasal septum; and to the formation of ulcers or "chrome holes" upon the hands or other exposed parts of the body. Accordingly, some provisions have been made in all chromium plating plants for artificial ventilation and for other sanitary measures. In spite of these precautions, however, the employees in some plants have been affected in the above mentioned ways.

In order, therefore, to determine the extent of the hazard and the best means of overcoming it, a survey was conducted in several commercial plants. This included a study of the methods and degree of ventilation, of the concentrations of chromic acid in the air breathed by the workers, and a physical examination of the workers themselves. Although only six plants were visited, and twenty-three persons examined, the results were so consistent in different plants, and agreed so well with previous experience with chromatas, that certain tentative conclusions and recommendations are warranted.

It was found that exposure to very low concentrations of chromic acid, e.g., one milligram in 10 cubic meters of air, or one-sixtieth of a grain in 350 cu. ft. (which may be considered approximately the volume of air breathed by a worker in eight hours), is sufficient to cause nose-bleed and nasal inflammation in a week or less. Higher concentrations or longer exposures cause extensive attack and even complete perforation of the nasal septum. This is painless, however, and the operator may be entirely unaware of the perforation. Many of the employees were found to have chromium ulcers on the hands or other exposed parts of the body. No evidence was found of injury to the respiratory tract except in the nose, nor of any effect upon the digestive system or the kidneys.

While, therefore, there is a real hazard in chromium plating, it is not critical, and can be entirely eliminated by suitable measures. These should include an effective system of ventilation in which the air is drawn horizontally across the plating tanks into a narrow duct in which the air velocity should be about 2000 feet per minute. So far as possible, rubber gloves, aprons, and shoes should be worn. Frequent applications of vaseline or mentholatum salve to the nose and hands greatly reduce the danger of ulceration. All cuts and abrasions of the skin should receive regular inspection and medical treatment.

If these simple, entirely practicable measures are taken, the hazard can be practically eliminated. There is no reason, therefore, to fear any serious injuries from the extension of chromium plating that is likely to occur in the next few years.—*United States Public Health Service.*

PROGRESS IN TRACHOMA STUDIES

The U. S. Public Health Service since 1912 has been studying and combating the scourge of trachoma which is prevalent in certain States, particularly areas in Kentucky, Tennessee, Missouri and Arkansas. Clinics and small hospitals have been established where persons suffering from this disease may received skilled treatment. In addition to the treatment of cases, considerable study has been conducted directed toward an investigation of the cause of this condition.

In a recently published article it has been stated that progress is being made in the study of the bacteriologic factors which appear to enter into the cause of this disease. Scientific opinion varies somewhat as to the real cause of trachoma. Some authorities claim that it is due to bacteria. By some it is stated that diet or perhaps other factors influence its cause and spread. Recent studies by the Public Health Service seem to indicate that in all probability certain organisms or "bodies" which have been known for some time, are bacterial in character and they, no doubt, originate from bacteria. The fact of their presence in a considerable percentage of trachoma cases is an indication that they may be of some significance in the causation of the disease, but the question cannot be answered definitely as yet. —*Bulletin United States Public Health Service.*

Case Records
of the
Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 14371

CHRONIC ALBUMINURIA AND DYSPNEA

MEDICAL DEPARTMENT

First admission. A German-American machinist forty-three years old entered May 9 complaining of nycturia, dyspnea, epigastric heaviness, palpitation and recent swelling of the ankles.

For at least five years he had had periods of passing considerable quantities of urine three or four times at night, especially after eating salty foods and meat, of which he ate a great deal. Two years before admission he was refused life insurance because albumin was found in his urine. After this he was treated at a dispensary and learned to avoid meat. Five months before admission he found he became tired more easily than usual and his nocturnal urination became persistent. Two months before admission he began to be dyspneic on heavy exertion and noticed a heavy feeling in the epigastrium after taking fluids. His sleep was disturbed by coughing, so that he bolstered himself up on pillows. Still he felt fairly well. A month before admission he returned to the dispensary and was given white tablets to be taken after meals. A week before admission he undertook some heavy work, but was obliged to give it up. Three days before admission his ankles began to swell for the first time.

At a visit to the Out-Patient Department the day of admission to the wards the following additional physical findings were noted. Lips pale. Hands cyanotic. Marked cervical pulsation. Blood pressure 150/120. Tonsils bad. Slight edema of eyelids. Moist râles at bases, disappearing on cough. Very occasional extrasystole. Apex beat in axilla. Rate rapid. Sounds fairly strong. Murmurs: (1) Low pitched diastolic at apex. (2) Low pitched diastolic with slight systolic roughening over the aortic area. (3) Another diastolic over pulmonic area, different in pitch from (2). In the right upper quadrant a mass—liver?

His father died of unknown cause, his mother of a "stroke". The youngest of his four children had convulsions. He gave a past history of frontal headaches years ago following constipation and relieved by laxatives. He had not had these for some years. He had had blurring of vision of the right eye for an unknown length of time. He had hemorrhoids. There was no past history of rheumatism, sore throat, chorea or syphilis.

Clinical examination showed a fairly well developed and nourished man with a *café au lait* pallor. Teeth carious. Lungs clear. Apex impulse of the heart felt in the sixth space 11 centimeters to the left of midsternum, 4.5 centimeters outside the midclavicular line, right border 3 centimeters, supracardiac dullness 7 centimeters in the first interspace, 9 in the second. Enlargement chiefly downward and to the left. Action regular, with a suggestion of gallop rhythm at times. Sounds of good quality. Systolic murmurs at the apex and the base. A faint blowing diastolic at the apex, an early diastolic at the base. Rate too rapid for clear differentiation. Pulses normal. Artery walls thickened and tortuous. An electrocardiogram showed normal rhythm, rate 85, low T all leads; intraventricular block of right branch type. Blood pressure 175/135 to 160/105. Abdomen and genitals negative. Marked pitting edema of the extremities up to the knees. Rectal examination showed hemorrhoids and one polyp of the rectum. Pupils and knee-jerks normal. Arteries in the left fundus indistinct in spots, possible exudate; clearer in the right; somewhat tortuous.

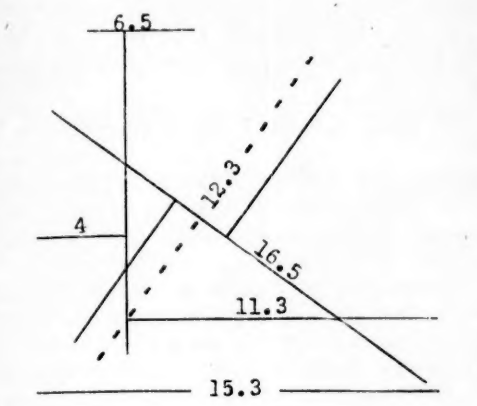
Amount of urine 33 to 80 ounces, specific gravity by a fixation test 1.019 to 1.025 by day, 1.010 at night, the slightest possible trace to a large trace of albumin at all of ten examinations, 2 or 3 hyaline casts per field at one of four sediment examinations, rare red blood cells at one, pus cells at three. Blood: hemoglobin 80 to 90 per cent, reds 4,900,000, platelets increased, smear otherwise normal, 13,900 to 9,100 leukocytes, 93 to 81 per cent polymorphonuclears. Wassermann negative. Non-protein nitrogen May 10 46 milligrams, May 13 39 milligrams. Stools: guaiac negative at two examinations; lead analysis negative.

X-ray examination showed the sinuses of normal radiance, retained root fragments of a molar and a bicuspid, no evident foci. The kidney shadows were indistinct. There were no shadows characteristic of stone and no visible gall-stones. There was no evidence of calcification of the arteries of the lower leg. The transverse measurements of the heart (see diagram) showed increase largely in the region of the left ventricle. There was definite mottling involving the right apex and the right infraclavicular region. There was thickening of the interlobar septum on the right. This change was somewhat blurred by motion. Later examination confirmed the finding of mottled dullness involving the right apex, and showed also mottled dullness at the left apex and general haziness of the right midchest just above the region of the interlobar septum. There was apparent flattening

of the diaphragm on the right, although the expiratory excursion was not impaired.

Temperature 97.7° to 100° by rectum, with a drop at discharge to 96°. Pulse 120 to 64. Respirations normal.

A consultant reported: "Proctoscopic examination negative up into the rectosigmoid. No



Chest 27

polyps, erosion or hemorrhagic areas were found, and no tumors. Rectal examination showed a fold on the right, well above the prostate. This is, I think, merely a fold of normal mucous membrane."

Examination of the heart May 13 showed the aortic second sound markedly accentuated and a short diastolic murmur in the second space to the right and down the left border of the sternum. The examiner was uncertain about a mitral diastolic.

Under diuresis the edema disappeared. May 20 the patient was discharged much improved.

History of interval. After leaving the hospital he rested more or less, but did a good deal of walking. Once on going upstairs his nose bled a few drops. May 28 or 29 he felt dyspneic, heavy and bloated after a walk. After this he stopped his walks, lay down half the time, and took three grains of digitalis a day, yet grew gradually worse. He had cough with thick white sputum, and increasing dyspnea. June 3 he began to use two pillows, and gradually increased to five. His abdomen and stomach felt bloated with gas. His feet and ankles began to be swollen in the mornings. He urinated 6 to 8 times by day and once or twice at night. For three weeks before his readmission he had oliguria. He did not feel entirely relieved after urination. During the week before readmission he grew increasingly weak. For the last four nights he was kept awake by orthopnea and cough. He had attacks of orthopnea while at rest in the daytime.

At a visit to the Cardiac Clinic June 16 he was "pale and edematous, with venous engorgement (big liver). Enormous heart—apex 6th space 11-12 centimeters to left. Protodiastolic rhythm. Fluid at both bases. Blood pressure 170/130. No aortic diastolic heard to-day."

Second admission June 17, four weeks after his discharge.

Clinical examination. Slightly dyspneic. Cyanotic ears, lips and hands. Tonsils enlarged and cystic. Apex impulse of the heart seen and felt in the sixth space 10.5 centimeters to the left of midsternum, 3 centimeters outside the midclavicular line. Pulmonic second and aortic second sounds both accentuated. Action normal. A systolic murmur at the base transmitted over the whole precordia. No diastolic. Blood pressure 175/135, 160/140, 160/115. Liver high in the back. A few inconstant crackles and slight dullness at the bases. Liver enlarged to 3 centimeters from the umbilicus and tender. Slight spasm over the liver on palpation. Abdomen slightly distended. No free fluid demonstrable. Spleen not felt, but examination not satisfactory. Marked pitting edema over the sacrum and up to knees. Hands and feet cold and cyanotic.

Amount of urine normal, cloudy at three of four examinations, specific gravity 1.028 to 1.032, a very slight trace to a very large trace of albumin at all examinations, occasional leukocytes at all of four sediment examinations, occasional red blood corpuscles at two, hyalin casts at three, granular at two. Renal function 30 per cent. Blood: 9,820 to 12,000 leukocytes, 64 per cent polymorphonuclears, hemoglobin 70 to 80 per cent, reds 5,180,000, smear normal. Nonprotein nitrogen 35 milligrams. Stools negative.

The patient was fairly uncomfortable, water logged, with considerable ascites and edema of the abdominal wall. He was put on a high carbohydrate diet with limited fluids. He complained chiefly of dryness of the mouth and tongue and some dyspnea in bed. June 24 500 cubic centimeters of blood was withdrawn with no relief of the dyspnea or the high diastolic pressure (160/140). June 25 a consultant reported, ". . . Apical protodiastolic gallop rhythm and unusually low pulse pressure with high diastolic. Prognosis hopeless . . . I should omit erythrol and diuretics."

The patient continued to lose ground. June 28 he was put back on a soft solid diet with limited fluids. The morning of July 1 he had sudden onset of marked swelling of the lower half of the upper arms and the upper half of the forearms, without redness or heat. The hands showed no edema, congestion or thermal changes. Next day the swelling of the arms subsided, but the hands appeared somewhat puffy. He was troubled with abdominal distention, relieved by pituitrin. July 7 the edema of the forearms reappeared. He had gained two or three pounds in a few days. July 9 diuresis was begun. The edema was disappearing and the general condition better. July 10 he died.

Discussion

BY RICHARD C. CABOT, M.D.

NOTES ON THE HISTORY AND PHYSICAL EXAMINATIONS

I have considerable doubt whether this patient did complain of all these things. I think the gentleman who wrote the record ascertained these things and put them down.

The patient urinated at night after eating salty foods and presumably drinking a good deal of water to quench his thirst. Of course under those conditions the passing of a large amount of water does not mean anything.

I should like to call your attention to the way in which this history is written. If you follow this one, those who have to read the histories will be very much obliged to you. That is, work out *the order of symptoms* and the time of each. It is very important and very interesting I think. You see he began with nycturia and albuminuria, went on to vertigo and the persistence of the nycturia, then to dyspnea, epigastric distress, cough, and finally, late as usual, to swelling of the ankles. I do not remember ever having seen the opposite i. e., cases starting with swelling of the ankles in the disease that I imagine you have begun to guess about, as I have, although at this stage we can only make guesses.

Presumably the tonsils are called bad because they were infected, not merely because they were large.

What is the significance of râles disappearing on cough?

A Student: Slight amount.

Dr. Cabot: Ordinarily it means that they are due to edema or simply to atelectasis of the thin margin of the lung. In this particular case we believe that there is going to be edema pretty soon.

What that low pitched diastolic with systolic roughening means I have not the slightest idea. I suppose it means two murmurs, a low pitched diastolic and a systolic murmur, because roughening does not mean anything over the aortic area. What they have is three diastolic murmurs, or more probably two. Two is common, three rare; probably another systolic as well.

The ordinary causes of valvular disease are not known to have occurred. That of course does not prove that they have not occurred.

The average amount of urine is 48 ounces in twenty-four hours.

That specific gravity is a very important fact —the fact that he has kidneys which can concentrate urine, although it goes down as low as 1.010. I do not know any fact that tells us as much about the kidney function as that. In all destructive kidney lesions, whether due to nephritis or to destruction of the tissue by surgical lesions, the specific gravity becomes fixed at a low point and will not go up. Even though we starve patients to water we can not concentrate the urine. You see how little there is in the sediment—nothing abnormal.

That is an essentially normal blood, with slight leukocytosis. The figures are slightly increased over the normal, but not enough to be of any significance.

I imagine that when you began this case you thought it was going to be chronic nephritis, and we are not sure yet that it is not. But as we go on we have more and more evidence against that.

I do not know why the lead analysis was made.

You see that the last figures are the most important. The interior diameter of the chest as measured by the X-ray is 27 centimeters, the total transverse diameter of the heart 15.3. The rule is that the heart's diameter should be less than one half the interior diameter of the chest. You see this is distinctly more than normal. In such a chest as this the cardiac diameter ought to be 12 or 13, not more. That is the only X-ray measurement we pay much attention to. We do not get much out of the others. It is the total transverse diameter we want to know.

That mottling at the right apex suggests tuberculosis. If you had the same thing at the base, what should you say?

Students: Pneumonia. Passive congestion.

Dr. Cabot: Passive congestion almost never appears at the apex. There it is very unusual to have such shadows due to anything but tuberculosis, although I believe that has nothing to do with this case. I imagine it is a side issue. It seems to be pretty clearly shown.

Ordinarily in tuberculosis of the lung the diaphragm does not go up and down normally because the elasticity of the lung is diminished. Here its motion is not diminished apparently, I do not know why. We have to leave it as an unexplained fact. I think all the cases we shall see this year, if we get good histories, will show one or more mysteries never explained. That is not the exception. It is the rule. The men who take good histories must confess that we understand this and this and this, but some points we do not understand.

Of course in hypertension nosebleeds are very common. A nosebleed going on in a middle aged person who has not had any trauma of the nose always suggests hypertension.

The increasing number of pillows shows the increasing orthopnea. Five pillows means sitting nearly straight up.

"He did not feel entirely relieved after urination." That is, he felt that there might be some residual in the bladder.

The chief symptom that has been added in the later history is this orthopnea.

Notice the steady rise of the diastolic pressure, much more important than the systolic. As this case goes on we hear fewer murmurs; at first

three, then it comes down to two, and now they are not sure of any.

The percussion measurements are smaller than they were before. That is a little strange. The best way to interpret it is that a different man did the percussion and neither was accurate. We feel at the apex all that we need ordinarily without percussion. If we are uncertain then we need an X-ray. But we still do percussion because no one likes to be the first to give it up.

"No diastolic." They are definite this time.

Notice the very small pulse pressure—only 20 from the bottom of the wave to the top.

A tender liver usually is a liver of passive congestion.

On the whole the kidneys were in very good shape, I should say.

Do you see any contradiction in that blood?

A STUDENT: The hemoglobin.

DR. CABOT: If the hemoglobin is as low as that the reds are not normal. There will be achromia of the center. If the hemoglobin does not accord with the smear I advise you to take the smear and disregard the hemoglobin measurement.

What a high carbohydrate diet has to do with this case I do not know. I suppose they thought they would take a shot and see what happened. They did not hit anything in particular, so presumably they went back to making him comfortable before he died.

My anatomical knowledge does not suffice to say why this man had edema in that part of the arms. It is very queer. The increase of weight of course was due to dropsy.

DIFFERENTIAL DIAGNOSIS

I take it at the beginning your general thought was of chronic nephritis, with hypertrophy and dilation of the heart. As time went on you thought there was no good evidence against the kidney. The thing that stays and increases is hypertension. Hypertension is a very formidable fact, and a fact we can not explain. We often can not see anything more. This patient had hypertension and died. It is a symptom and not a disease. But when we can not find anything more we have to stop there. This is idiopathic or "essential" hypertension. It is just hypertension and that is all. I think we ought to stop there in our nomenclature.

What else is there that could not be caused by hypertension? Those signs at the right apex. They can not be caused by passive congestion due to a failing heart and hypertension. They must be explained by a second disease. We must make at least two separate diagnoses here. I believe one kidney may and the other may not be affected. I believe the process at the right apex was old and healed, but will be shown at post mortem.

Let us sum up as best we can what we expect Dr. Mallory to say. The more definitely we commit outselves the more we shall learn. We believe his heart is enlarged. Why do we believe it?

A STUDENT: On X-ray evidence.

DR. CABOT: I have not in the years I have been working here seen X-ray thrown down post mortem in a case like this. When an X-ray man has a good chance to measure and also to write down the measurements, Dr. Mallory finds them the same. Even if we did not have that, a chronic hypertension such as he has would make it very probable that his heart would be enlarged to keep up with such a hypertension, to keep the blood in circulation in spite of it.

Do we expect valve lesions?

SOME STUDENTS: Yes.

OTHER STUDENTS: No.

DR. CABOT: I am with the group who think the valves will be normal, that is, essentially normal.

What shall we find in the lungs?

STUDENTS: Tuberculosis. Passive congestion.

DR. CABOT: Both, I believe,—an old healed tuberculosis and a recent passive congestion.

Did you get permission to examine the brain?

DR. TRACY B. MALLORY: No.

DR. CABOT: We will not discuss it, then.

Below the diaphragm, the liver will show, I suppose, the nutmeg markings. The spleen ought to be elastic, rubbery and thick, but not particularly big. There ought to be some fluid in the abdomen. There ought to be some ascites, probably some fluid in the pleural cavities. The kidneys ought to be normal. There is some evidence against them, but not enough. Albumin persisted, but you can get it from passive congestion without supposing nephritis. The only doubt is in relation to the specific gravity. The excretion products seem to me against nephritis. The other organs should not show anything in particular. The case ought to sum up as one of simple hypertension and its results coming in a man who previously had and recovered from tuberculosis at both apices.

A STUDENT: Has the blurring of the right eye any connection with the hypertension?

DR. CABOT: I suspect that if the retina were examined we should find the type of retinitis that often goes with malignant hypertension. But I do not think in view of the actual examination we can say so. Therefore I cannot say.

A STUDENT: Do you mean that all cases with arteriosclerosis are malignant hypertension?

DR. CABOT: No; most cases of malignant hypertension do not have much arteriosclerosis. I mean the hypertension which progresses rapidly, ordinarily within eight months from the time of diagnosis to death, and in which in the great majority of cases retinitis without much kidney trouble is demonstrated.

A STUDENT: Does retinitis always accompany general arteriosclerosis?

DR. CABOT: No; you can have it without.

A STUDENT: I mean not caused by hypertension?

DR. CABOT: Yes; all these three can be independent—hypertension, retinitis and arteriosclerosis.

A STUDENT: Does the hypertension cause the nycturia?

DR. CABOT: I do not know. I believe that hypertension can cause nycturia. It is not clearly shown in this case.

A STUDENT: Do you always get a remission like that?

DR. CABOT: No; it may go straight on from bad to worse. There is no rule that I know.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Hypertensive and arteriosclerotic heart disease.
Congestive failure.
Chronic nephritis.

DR. RICHARD C. CABOT'S DIAGNOSIS

Primary hypertension.
Hypertrophy and dilatation of the heart.
Chronic passive congestion, general.
Healed tuberculosis at the apices of the lungs.

ANATOMIC DIAGNOSES

1. *Primary disease.*

Arteriosclerotic heart disease.
Hypertrophy and dilatation of the heart.

2. *Secondary or terminal lesions.*

Fibrous myocarditis.
Thrombosis, small coronary branch.
Chronic passive congestion, general.
Arteriosclerosis.
Healed apical tuberculosis.

DR. MALLORY: The most interesting thing in the case, as predicted, is the heart. It was much enlarged, weighing 525 grams. You will remember that the normal weight for a man is from 350 to 375 grams. Both ventricles were enlarged, their walls much thickened. The right ventricle wall was thickened to 7 millimeters; normally 3 to 3.5 milimeters. The left ventricle wall measured 21 millimeters, the normal being about 15 or 16 millimeters. The aortic valve did show a lesion. There was very marked calcification of all three of the cusps and some slight interadherence of the two posterior cusps. The appearance was that of an arteriosclerotic valve disease rather than a rheumatic one. I think it is very doubtful if the valve was functionally incompetent. It was calcified and roughened, but apparently it still was fairly competent. It is perhaps possible that arteriosclerosis can produce an incompetent valve in the aortic area, but it certainly is very uncommon. Significant degrees of stenosis are of course not unusual. It does not seem improbable, however, that it might have produced some of the murmurs recorded here in the early part of the history.

The larger branches of the coronary arteries were patent, although in part calcified. Several of the smaller branches, picked up only in histologic examination, were thrombosed. The surrounding areas of myocardium had lost all their muscle fibers and become fibrosed. It is interesting that we occasionally find cases of severe disease of the coronary arteries, or even complete obliteration, in which there has never been a history of angina, as in this case.

Elsewhere in the body there was considerable but not extreme arteriosclerosis. For a man of forty-one it was considerably more than we should expect. There were atheromatous patches in the arch, increasing in the descending aorta and becoming very marked in the abdominal portion. The aorta looked like that of a man of sixty rather than forty.

The liver of course showed chronic passive congestion.

The spleen was slightly enlarged, 190 grams, —certainly not big enough to be palpable.

The kidneys weighed 350 grams—practically normal weight. A portion of that weight was due to an increase in fat in the pelves; but even if that had been entirely removed I think they would still have weighed well over 300 grams. The cortex was thinned to four millimeters, where the normal is 7 millimeters. But histologic examination showed only scattered sclerosed glomeruli and a moderate degree of arteriosclerosis of some of the larger vessels. It was certainly not a badly diseased kidney.

There was marked edema of all the dependent portions, and a considerable amount of ascites and of fluid in the pleural cavities. In the left one there was a liter of fluid, which it seems should have given some definite symptoms.

DR. CABOT: Did you speak about the apex?

DR. MALLORY: There was a healed apical tuberculosis.

CASE 14372

A RATHER ACUTE WIDESPREAD MACULAR ERUPTION WITH INVOLVEMENT OF PALMS AND SOLES

DERMATOLOGICAL DEPARTMENT

A Russian housewife of twenty-eight presented herself at the clinic with a very generalized skin eruption. She stated that the eruption had begun about twelve days before with a few small lesions about the size of Lima beans on the right flank. These had gradually extended to cover her whole body, including her palms and soles. The lesions themselves increased slightly in size and many more new ones appeared. There had been a moderate amount of itching. As far as other symptoms were concerned, she had had headache, with slight general malaise, and com-

plained of joint pains at the start of the eruption. She gave no history of sore throat or digestive upset, and stated that she had had no sore of any kind upon her body in the last few months. She had had no internal medication, but had been given ultraviolet light treatment about five or six days before coming to the hospital.

The patient was a well nourished young woman with a widespread macular eruption. The face and neck were not involved. The lesions were thickest over the trunk. Even the palms of both hands and the soles of both feet showed lesions. The individual lesions were macules, pinkish-red in color, oval or round, oftentimes very closely set together, especially on the body. There was no scaling. The skin as a whole had a slight brownish-red tinge, consistent with the general exposure to the ultraviolet light a few days before. There was no granular enlargement anywhere. The tongue, mouth and throat were negative. A careful examination showed no evidence of any recent scar or crust.

She was examined by the staff of both the Dermatological and South Medical Departments, and it was felt that the eruption was consistent with, first, pityriasis rosea, and second, early secondary syphilis. The confusing features were the involvement of the palms and soles and the absence of any concomitant signs of syphilis. Blood was taken for a Wassermann, an intravenous injection of 0.25 gm. arsphenamin was given, and she was asked to return in five days.

Discussion

BY C. GUY LANE, M.D.

A general macular eruption of this type rightly deserves to be considered as an indication for antiluetic therapy, and particularly when it is found that the palms and soles have been invaded. A moderate amount of itching does not exclude syphilis, but it is unusual to get itching in the early eruptions of syphilis.

It is to be noted that she had some slight general symptoms when the eruption began. Such symptoms occur in numerous cases of pityriasis rosea, while the symptoms of syphilis tend to appear as the eruption develops rather than at first.

No history of anything suggesting a primary lesion could be obtained and there were no remains of any satellite adenitis incident thereto. Such a lack in the history is rather frequent in the female, and does not militate against syphilis.

Similarly, the denial of medication would not rule out a drug eruption, but the character of the eruption hardly suggested such a causative factor. Other general eruptions such as the exanthemata, psoriasis, or lichen planus were not suggested by the appearance of the eruption.

It is a question whether the ultraviolet light treatment had masked the eruption at all. It is barely possible that it may have interfered with the development of individual lesions somewhat, and perhaps have altered the color slightly, and thus have increased the doubt concerning pityriasis rosea.

The value of the concomitant signs of lues is well shown here. Such signs are missing and there is not a bit of evidence to complete the picture suggested by the general macular eruption. Similarly there is no further evidence to support the diagnosis of pityriasis rosea. There is no "mother spot" or history of any, there are none of the lemon-centered macular lesions with their papery scales attached peripherally, and there is none of the characteristic crinkling of the skin over such lesions. Moreover, the eruption of pityriasis rosea almost never appears on the palms and soles as is frequently the case with syphilis.

Pityriasis rosea is not infrequently mistaken for syphilis, and I am sure that many such cases have had antiluetic therapy and have lived under the stigma which syphilis carries with it.

The inclination was to regard the case as pityriasis rosea. But it was agreed that blood tests should be made and a therapeutic test as well by giving a small dose of arsphenamin, with instruction for the patient to return for observation of the development of the lesions.

Subsequent Course

The woman was seen five days later, and rather typical scaly lesions of pityriasis rosea were found on the upper part of the body. There was rather extensive scaling of the lower part of the body, perhaps as a result of the ultraviolet light treatment. This scaling was much more consistent with pityriasis rosea than with syphilis, although the palms and soles remained much the same. In addition, there were no concomitant signs of syphilis and both Wassermann and Hinton tests were negative. The case was adjudged one of pityriasis rosea with unusual manifestations strongly suggesting early secondary syphilis.

Diagnosis

Pityriasis rosea.

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CHILD LABOR AND PREVENTIVE MEDICINE

DR. CATHERINE BRANNICK, assistant examiner in The Vocational Guidance Bureau of the Chicago Board of Education, in this number of the JOURNAL* indicates clearly the importance of child labor as a factor working against the effective application of preventive medicine. During the days of army conscription in this country in 1917, surprise and consternation were expressed at the number of rejections for physical reasons. In these rejections New England, a manufacturing section, led all other sections of the country and Dr. Brannick sees as a reason for the physical unfitness the employment of children in industry.

Much legislation has been passed by various states, but on the whole it is either inadequate or poorly enforced, and although conditions have improved an excessive burden is still being carried by our child population. In Illinois, for instance, in 1926, 1468 industrial accidents occurred involving minors under 18 years of age. Of these 1325 called for compensation. There were 14 fatalities, 189 permanent disabilities and 39 disfigurements. Seventy-five of these accidents occurred to children under 16 years of age, and 45 per cent. of these were illegally employed.

It is not only in regard to accident that child labor imposes its burdens. The factor of general health and particularly of future health, less easy to evaluate, must be an enormous one, and the psychological hazard entailed by premature induction into industry constitutes a possible burden that can hardly yet be defined.

Dr. Brannick's indictment is an imposing one; it is one with which preventive medicine is most definitely concerned, and through its relationship with preventive medicine it involves the medical profession.

*Page 884.

WHO MAY BE EXPECTED TO USE INFLUENCE IN EFFORTS TO SECURE BETTER REGISTRATION LAWS

ATTEMPTS to elevate the standards of medical registration have always raised the cry that the "Medical Trust", whatever that may be, is attempting to monopolize medical practice. The question naturally arises whether there are in the community other interests outside of the profession directly interested in securing and maintaining higher standards of practice.

Obviously life, health and accident insurance companies are directly and financially affected by the quality of medical and surgical attention received by their policy holders. Life insurance companies have considered it a wise investment to expend very large sums of money in demonstrations which might lead to the detection and prevention of disease. Educational campaigns to prevent accidents are undertaken. Much money is expended in the systematic attempt to eliminate industrial accidents and diseases. Manufacturers and other employers of labor are coming to realize from a study of their accounts the very serious financial loss entailed by the illness, disability or replacement of employees. In some manufacturing plants the loss to the company every time an employee is replaced amounts to several hundred dollars. The slowing up of production, the liability of breakage or damage to machinery, the loss through the production of goods of second quality are all factors entering into the account.

"Efficiency" is the cry in the making, distribution, and sale of merchandise today.

In spite of the measures taken to prevent accidents, the enactment of laws making automobile accident insurance compulsory and the existence of the Workmen's Compensation Law which practically compels insurance in industrial accidents are abundant evidence that the public anticipates many accidents for many years to come.

These accidents must be adequately treated. Whereas in the prevention of disease the results to be attained are usually slow and difficult of direct demonstration, in the accident the differ-

ence in the loss of time and the functional disability which may result from skillful or unskillful handling is immediate and clearly demonstrable.

Insurance companies recognize this fact and not unnaturally have attempted to bring injured workmen and others under the care of those whom they know are experts in traumatic surgery. But in many localities this is impossible and always the first treatment is of extreme importance. Here is a perfectly clear situation in which the financial gain or loss to the Commonwealth is directly dependent on the standards of surgical practice.

Boards of Registration are established for the protection of the public. In the final analysis this is the sole reason for their existence. The protection given to the physicians whom they license is only incidental. Yet it has been impossible in this State to secure the slight changes in the laws which the Board of Registration has recommended as necessary if they are to fulfill their duties as they should.

The question naturally arises whether the time has not come for the insurance companies, notably influential in legislative matters, to take a hand in helping to secure higher standards of registration. The insurance companies are of course merely agents in distributing the losses which the Commonwealth suffers, but they are organized, they have definite facts and figures at their command. They are in a position at any time to throw their great influence in favor of measures which will, through providing adequate medical and surgical standards, yield not only a saving in life and health but a very great financial saving to themselves and to the State.

HEADQUARTERS FOR THE MASSACHUSETTS MEDICAL SOCIETY

THE campaign to raise money for headquarters for the Society and for offices for the JOURNAL which was initiated last spring was held in abeyance when it seemed possible that the Society and the Boston Medical Library might unite in a movement which would not only provide adequate quarters for both but which would be the beginning of a great medical centre for New England.

At last the Society and the Library have united in this effort. A campaign is being started which if successful will meet the needs of both bodies for many years to come and which will make possible a closer co-öperation between all medical and allied interests devoted to the promotion of public health.

The Society is not unmindful of the fact that individual physicians in many parts of the State and that many entire District Societies have given most generously already. The opportunity is now open to those who feel able and so inclined to contribute anew to the larger plan. The duty of those who have postponed their contributions because they desired co-öperation in the larger plan now undertaken is unmistakable.

THE USE OF CRIMINALS IN THE STUDY OF CANCER

THE *Medical Press and Circular* reports that "The Cuban Board of National Sanitation has approved a proposal for the inoculation of convicts under sentence of death with cancer germs for purposes of clinical study".

If the criminals agree to this experiment and survive after twelve years they will be set at liberty according to this proposal.

The question as to what are cancer germs is appropriate. If human beings are found to be immune to the artificial implantation of cancer material this will be a popular resource of convicted murderers.

Another pertinent question applies to the reaction of those excessively sentimental persons who lavish sympathy on murderers. Will such people regard this method as cruel or humane? If the proposal is adopted by the Cuban Congress the reaction of the public as well as the scientific data recorded will be of interest.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

WISE, FRED. M.D. Columbia University College of Physicians and Surgeons, New York, 1904. Member, Alumni Society; New York Skin and Cancer Hospital; American Dermatological Association; New York Academy of Medicine. His subject is: "Drug Eruptions". Page 855. Address: 200 W. 59th Street, New York City.

BRYANT, BERTRAM L. A.B., A.M., M.D. Bowdoin Medical School, 1898. His subject is: "Regular Health Examinations". Page 856. Address: 239 Hammond Street, Bangor, Maine.

KOLMER, JOHN A. M.D. University of Pennsylvania School of Medicine, Philadelphia, 1908. His subject is: "The Nature, Specificity, Sensitiveness and Practical Value of the Kolmer-Wassermann Reaction". Page 857. Address: 2101 Pine Street, Philadelphia, Pa.

ALVAREZ, WALTER C. M.D. Cooper Medical College, San Francisco, 1905. Research Work on Gastro-Enterology, Physiology, Radiology, Hyper-Tension, etc. His subject is: "What Causes Constipation". Page 858. Address: Mayo Clinic, Rochester, Minn.

YOUNG, HUGH HAMPTON. M.A., M.D., D.S.M. University of Virginia Department of Medicine, 1894. F.A.C.S. Clinical Professor of Urology, Johns Hopkins University Medical Department; Visiting Urologist, Johns Hopkins Hospital; Editor, *Journal of Urology*. His subject is: "Medical and Surgical Problems in Prostatic

Obstruction". Page 859. Address: Johns Hopkins Hospital, Baltimore, Maryland.

ROWNTREE, LEONARD G. M.D. University of Western Ontario Medical School, London, Ontario. His subject is: "Some Considerations in Disease of the Liver". Page 860. Address: Mayo Clinic, Rochester, Minn.

OSGOOD, ROBERT B. B.A., M.D. Harvard, 1899. F.A.C.S. Professor of Orthopedic Surgery, Medical School of Harvard University; Chief, Orthopedic Department, Children's Hospital; Chairman Advisory Board, Orthopedic Surgeon, Shriners' Hospital for Crippled Children. His subject is: "Compression Fractures of the Spine". Page 861. Address: 372 Marlborough Street, Boston.

SMITH, DAVID T. M.D. Johns Hopkins University School of Medicine, 1922. His subject is: "Etiology and Early Diagnosis of Bronchiectasis and Lung Abscess". Page 862. Address: New York State Hospital, Ray Brook, New York.

MACKENZIE, GEORGE M. M.D. Columbia University College of Physicians and Surgeons, 1913. Associate Professor of Medicine, Columbia University College of Physicians and Surgeons. His subject is: "Serum Sickness and Serum Accidents". Page 862. Address: 41 E. 70th Street, New York City.

HOMANS, JOHN. B.A., M.D. Harvard, 1903. F.A.C.S. Instructor in Surgery, Medical School of Harvard University; Surgeon, Peter Bent Brigham Hospital. His subject is: "Varicose Veins and Varicose Ulcers". Page 863. Address: 33 Leicester Street, Brookline, Mass.

DERBY, GEORGE S. B.A., M.D. Harvard, 1900. F.A.C.S. Ophthalmic Chief, Massachusetts Eye and Ear Infirmary; Ophthalmologist, Children's and Massachusetts General Hospitals. His subject is: "Glaucoma". Page 864. Address: 23 Bay State Road, Boston.

BASTEDO, WALTER ARTHUR. M.D. Columbia University College of Physicians and Surgeons, 1899. Assistant Clinical Professor in Medicine, Columbia University College of Physicians and Surgeons. His subject is: "Colon Irrigations". Page 865. Address: 33 E. 68th Street, New York City.

STOOKEY, BYRON. A.M., M.D. Harvard, 1913. F.A.C.S. Associate Professor of Neuro-Surgery, New York Post-Graduate Medical School; Associate Surgeon, New York Neurological Institute; Assistant Attending Surgeon, Bellevue Hospital; Assistant Neurological Surgeon, Memorial Hospital; Consulting Neurological Surgeon, St. Luke's and Beekman Street Hospitals; Consultant in Neurological Surgery, Vanderbilt Clinic. His subject is: "Modern Surgical Treatment of Trigeminal Neuralgia". Page 866. Address: 515 Park Avenue, New York City.

CLEVELAND, MATHER. M.A., M.D. Columbia University College of Physicians and Surgeons, 1915. F.A.C.S. Assistant Professor of Anatomy, Instructor in Surgery, Columbia University College of Physicians and Surgeons; Attending Orthopedic Surgeon, Seaview Hospital; Consultant in Orthopedic Surgery, Nassau Hospital. His subject is: "Shoulder Pain". Page 867. Address: 29 East Sixty-fourth Street, New York City.

RUBIN, I. C. M.D. Columbia University College of Physicians and Surgeons, 1905. F.A.C.S. Attending Gynecologist, Montefiore Hospital; Associate in Pathology, Beth Israel Hospital. His subject is: "Sterility and Infertility—Causes and Treatment". Page 868. Address: 911 Park Avenue, New York City.

BOWLER, JOHN POLLARD. M.S., M.D. Harvard 1919. F.A.C.S. Dean, Dartmouth Medical School. Address: Hanover, New Hampshire. Associated with him is:

SYVERTSEN, ROLF C. A.B. Instructor in Anatomy, Dartmouth Medical School. Their subject is: "Toxic Hepatitis with Splenomegaly Following Pregnancy". Page 869. Address: Hanover, New Hampshire.

COLBY, CLEON W. M.D. Jefferson Medical College, 1913. Staff, Exeter Hospital. His subject is: "Pelvic Outlet Contraction in Pregnancy". Page 871. Address: Exeter, New Hampshire.

TUTTLE, RALPH W. S.B., M.D. Harvard, 1908. His subject is: "The Other Side of Country Practice". Page 874. Address: Alton, New Hampshire.

MCMECHAN, F. H. A.M., M.D. Medical College of Ohio, 1903. Secretary-General Associated Anesthetists of the United States and Canada, Executive Secretary, International Anesthesia Research Society. Editor, *Current Researches in Anesthesia and Analgesia*. His subject is: "Morton Bust Presentation Address". Page 881. Address: Avon Lake, Ohio.

BRANNICK, CATHERINE. B.A., M.D. Tufts College Medical School, 1916. Formerly, Psychologist, Chicago Juvenile Court, Psychiatrist, Massachusetts Reformatory for Women. At present, Assistant Examiner, Bureau Vocational Guidance, Chicago Board of Education. Her subject is: "Child Labor and Preventive Medicine". Page 884. Address: 460 South State Street, Chicago, Ill.

HAWES, JOHN B., 2ND. A.B., M.D. Harvard Medical School, 1903. President, Boston Tuberculosis Association; Consultant for Diseases of the Lungs, United States Veterans' Bureau District No. 1. Address: 11 Marlborough Street, Boston. Associated with him is:

STONE, MOSES J. M.D. Tufts, 1921. Formerly on the staff of the Tuberculosis Department of the Massachusetts State Infirmary, Rutland State Sanatorium, and Westfield State Sanatorium. Now Examiner in the Tuberculosis Clinics of the Boston Health Department, Visiting Physician to the Out-Patient Chest Clinic of the Massachusetts Homeopathic Hospital. Assistant in Medicine at the Beth Israel Hospital, Boston, Mass. Assistant in Medicine at the Boston University Medical School. Their subject is: "Progress in Tuberculosis". Page 889. Address: 11 Marlborough Street, Boston.

THE CAMPAIGN FOR A MEDICAL CENTRE

THE Boston Medical Library and the Massachusetts Medical Society have united in a $650,000. campaign to provide and maintain the long desired addition to the Library.

A campaign, begun last Spring among the members of the Massachusetts Medical Society to raise funds for its headquarters and for the offices of the NEW ENGLAND JOURNAL OF MEDICINE, was suspended for a time when it appeared possible that the two organizations might unite in an effort to secure funds which would provide for the needs of both under one roof.

A joint committee has this week announced that co-öperation is assured. Dr. John W. Bartol will serve as Campaign Chairman and Dr. Richard G. Wadsworth as Treasurer. Other members of the Joint Committee are: Dr. Roger I. Lee, Chairman, Dr. John M. Birnie of Springfield, Dr. Walter P. Bowers, Dr. Henry Cook of Pittsfield, Dr. Channing Frothingham, Dr. Chas. G. Mixter, Dr. Thomas J. O'Brien, Dr. Chas. F. Painter, Dr. William C. Quinby, Dr. Francis S. Rackemann, Dr. James S. Stone, and Dr. Samuel B. Woodward of Worcester. Dr. Quinby will also serve as Vice-Chairman for Greater Boston and Dr. Lee as Chairman of the Physicians Special Gifts Committee.

The plans include important changes in the present building. There will be a private lounge for members, new kitchen and supper room, renovation of the fourth floor assembly hall now used as a temporary stack room, a rest room for women of the staff, and a fire proof room to contain many of the particularly valuable treasures of the library.

The Massachusetts Medical Society will have its headquarters and the NEW ENGLAND JOURNAL OF MEDICINE its offices in the new addition. A new reading room, individual study rooms and added stack rooms which are now much needed will be provided.

The present campaign is the first public appeal of the Library in the 52 years which have elapsed since its founding by Dr. Oliver Wendell Holmes and a group of physicians of whom Dr. William L. Richardson is the sole survivor. It first occupied two rooms at 5 Hamilton Place. Members of the young library association deposited their private collections in order that they might be accessible to all physicians of the city. In 1878 the Library was forced by congestion to move to larger quarters at 19 Boylston Place. There not only more private collections but the medical books of numerous institutions including the Public Libraries of Boston, Cambridge, Portland, and other cities, the Boston Athenaeum, the Essex Institute of Salem, and Harvard University were deposited or given, and the Boston Medical Library became the central medical reference library for New England. Dr. James R. Chadwick and later Dr. John W. Farlow labored unceasingly for the library.

In 1900 the quarters were again overcrowded and a sum was raised among physicians to erect the present building at No. 8 the Fenway. In this building there is a stack capacity of 50,000 volumes, but the Library's collection has increased to 150,000 volumes besides 100,000 pamphlets. Reading and assembly rooms have necessarily been used as temporary stack rooms, and books and pamphlets for which there is no shelf space are piled in basement and corridors. Several valuable collections have been placed in storage warehouse on account of lack of room. The proposed addition will increase the stack capacity to 300,000 volumes, providing for the present overflow and the average increase of 4,000 volumes a year for the next thirty years.

The Massachusetts Medical Society, founded in 1781, is the oldest state medical society in America. It now has a membership of about 4500. The preamble of the original charter reads thus: "As Health is essentially necessary to the Happiness of Society; and as its Preservation or Recovery is closely connected with the Knowledge of the Animal Oeconomy, and of the Properties and Effects of Medicines; and as the Benefit of Medical Institutions, formed on Liberal Principles and encouraged by the Patronage of the Law, is universally acknowledged;". This Charter was signed by John Hancock and Samuel Adams. The rather quaint words have covered the purposes of the Society during its whole existence of almost a century and a half.

Intimately connected with the progress of the Society is the history of the *New England Journal of Medicine and Surgery*, published from 1812 to 1828, and its successor, the *Boston Medical and Surgical Journal*, which last February celebrated its 100th anniversary. At that time the name of the JOURNAL was changed to the NEW ENGLAND JOURNAL OF MEDICINE, which is now the official organ of the State Medical Societies of Massachusetts, New Hampshire, and Vermont, as well as of such special Societies as the New England Surgical Society, the Boston Surgical Society, the New England Pediatric Society, and the New Hampshire Surgical Club.

The JOURNAL is, with the exception of the *London Lancet*, the oldest medical weekly in the World.

Neither the Society nor the JOURNAL has ever undertaken a Campaign to raise funds outside the medical profession. They now plan to provide their own quarters and they join with the Library in its well justified appeal for public aid in making its resources more useful to all interested in promoting the public health.

The Library with its great material resources and the Massachusetts Medical Society with its great membership and influence unite in the effort to create a medical center for the co-öperative activities of the medical, dental, nursing, and allied interests of New England.

The aid of all citizens of the Commonwealth is sought to enable the Society to carry out adequately the purposes of its original Charter, and to enable the Library to fulfill the purpose expressed in a recent revision of its charter: "To wit:—promoting and advancing medical science and medical education."

THE DOCTOR'S SADDLE BAG

THE ORDER CHANGETH

THERE is a type of physician, said to be fast disappearing or to have gone from us entirely—and it may be forever—who still remains in my mind as the representative of the best type which we have known in the profession. If modern methods and modern science have driven him from his accustomed rounds then we must admit that change is not always for the better. The type may be gone but memory lingers and there are few of us, except the youngest, who do not hold enshrined in some sacred cloister of our hearts our ideal of the physician—and he is the physician of fifty years ago.

Fifty years ago the pathogenicity of bacteria was a new and amazing truth. Pasteur had laid his facts before the judicial bench of his contemporaries and they had been received with incredulity. Lister had taken them up and had applied them to the alleviation of human suffering, and many had remained unconvinced. Nevertheless it was the dawning of a new era. To surgical anesthesia aseptic surgery was about to be conjoined, and the two chief forces with which the modern surgeon works were in the hands of his predecessors.

The century was one of progress and advancement and invention. Laennec and Auenbrugger, with two simple discoveries, had given to medicine a system of examination of the cavities of the living body which were to be surpassed only by the electrical genius of Roentgen. Medicine was receiving its first impressions of an age unprecedented in human experience—an age which has given the steam engine and the telephone to man; which has harnessed the forces of nature to his service; which has seen him float beneath the waters of the sea and on the waves of the ether and snatch music from the air. Gathering velocity with every turn of the wheel, this period, in scarcely more than man's allotted span of years, has transformed life from a condition of comparative simplicity to one in which all the complexities of a mechanical civilization must be daily met and combatted.

The physician of fifty years ago was the daily witness of a medical renaissance which was constantly adding new ideas and new inspirations to his work. Self-complacence was giving way to a new desire to learn and to experiment. Art and the humanities were still the dominant characteristics of medical practice; they were the star to which science was being hitched. It might be said, to descend to a less exalted metaphor, that the tail had not yet begun to wag the dog.

These were the days of the surgical kit and the fever kit, when the country doctor was still an institution in every country town. The telephone had not then made the night summons easy and routed so many a poor fellow from his bed to his grave. The hard road did not then carry the dyspeptic farmer (were there such mortals?) past the local practitioner's door and to the city specialist's office. The passing of the rural practitioner and the cost of medical care were not then the subjects of conversation and of consternation that they are now. Specialization fifty years ago was a hard won recognition of unusual merit. Specialists were not turned out by the mile and cut into convenient lengths. It was possible in those days for the same individual to listen to the heart and lungs with the same stethoscope. He delivered the babies, he dosed the pneumonias, he bound the wound and God healed it, and when all was said and done and the eyelids closed he comforted the family and sent no bill. The doctor's saddlebag in those days was an actuality; a material repository, of leather, for pills and potions, for powders and for plasters. In those days at least, it contained real comforts, not idle fancies.

Nearly eighty years ago my grandfather started practice in what was then a country town. When his contemporaries were visiting Vienna he was teaching school to earn the money to continue his medical studies. His education, at the medical school of Bowdoin College, of cherished memory, was as good as the country afforded, and he took good advantage of it. Many worthy people regret that an overwhelming passion for standardization forced the closing of Bowdoin's doors. The rural districts of New England have suffered thereby.

I remember, as a small boy, my grandfather's office, the venerable and white bearded old gentleman at his roll top desk. On it was a cleverly fashioned and painted leather facsimile of a human heart, well worn by frequent study. A brass instrument with a spring and flashing knives that quickly showed their teeth through narrow slits was used for blood letting; there

was also apparatus for dry and wet cupping. An interview in that office cost a patient twenty-five cents, if he had it, and he took away ten dollars worth of good advice measured by modern standards. This doctor believed that night air caused malaria, as did all honest doctors of his day, and when he himself was ill with a septic foot I saw Spanish leeches, applied by my father, drawing the poison from it.

My father, coming later, was given the advantages which the times afforded. He followed the wards with Lister, studied physical diagnosis with Bamberger, and brought home from Virchow's laboratory a set of pathologic slides, as thick as sandwiches at a church supper.

Truly the order changes, but all the magic of modern science cannot replace the philosophy of a passing generation.

MISCELLANY

TENTH ARMISTICE ANNIVERSARY RECALLS ASSISTANCE TO DISABLED WAR VETERANS

In observing the Tenth Anniversary of the signing of the Armistice this year, November 11, 1928, it is perhaps appropriate to recall a phase of present day service of the American Red Cross, which is not generally familiar. That phase deals with the disabled World War veteran, in hospitals largely, or in his home community where he and his family are making their fight for physical and economic recovery.

The medical profession throughout the country is directly interested in the problem presented by the disabled veteran. Many of our nation's medical men are, themselves, veterans of the war; many others have had contact with veterans in their communities since, in line of their profession, and all are interested in any phase of treatment which assists in recovery of these men.

The mission of the American Red Cross in connection with the veterans is in fields not covered by Federal or State provisions, therefore, is unduplicated.

The Red Cross maintains specially qualified workers in all of the fifty Veterans' Bureau hospitals, in which during the past year, there were approximately 25,500 disabled and sick World War Veterans. Twenty-seven liaison representatives are maintained by the organization in Veterans' Bureau regional offices. Recreational work for the veterans is directed by the Red Cross in all these hospitals. Insurance, bonus, compensation claims, guardianship matters for the mentally ill, contact with families of veterans, and relief work for these families, is all done by the Red Cross.

Supplementing all, are efforts of local Chapters of the American Red Cross in 2,699 communities over the nation. Through this protective net-work, the efforts of the hospital staff are thus seconded by keeping the patient's mind free of worry, either about his own affairs, or his family, and in other ways, a direct contribution to the veteran's recovery is made. These efforts are of course, extended to men now serving in the country's Army and Navy.

That the work of the Red Cross is valued by those having most to do with the care of the disabled veteran and service man, is shown by commendations from virtually all of them.

General Frank T. Hines, director of the Veterans' Bureau, wrote that the "American Red Cross has rendered invaluable assistance" to veterans along various lines.

Surgeon General E. R. Stitt, of the U. S. Navy, commented in a letter to the Chairman of the American Red Cross; that "through its personnel, it continues to give the Navy invaluable service at the U. S. Naval Hospitals. The Red Cross is to be complimented on the excellent 'home service' instituted at all naval hospitals. It enables the patients to be in touch with the families, and assist in making it possible for parents to visit their sons, and be cared for during their stay. The Bureau of Medicine and Surgery considers the service given by the Red Cross to patients and duty personnel at naval hospitals a distinct asset to the Navy."

"A decade has elapsed since the close of the World War," Major General Meritte W. Ireland, Surgeon General of the Army, wrote also, "in reviewing the work of the American Red Cross with and for the Army during that period, I am of the opinion that any curtailment of its present peace-time activities in our military hospitals would be ill-advised and create a gap that could not be filled by any other agency."

These letters testify to the value of this war-born service. In the medical field, the Red Cross carries on still other work, which perhaps more directly attracts the general medical practitioner's notice.

This organization, for example, is a pioneer in the field of rural nursing; it has undoubtedly been the greatest single force in the development of rural nursing, and is today the largest single employer in the United States of such nurses.

There are a number of other agencies interested in this field, and a great deal of work is being done, but whole areas of the country, as yet untouched, testify to the need today of this Red Cross service. Co-öperating with the local medical authorities and allied forces, the American Red Cross is steadily developing community health programs to meet particular requirements.

Nor are the efforts of Red Cross nurses confined to rural sections. A report for one populous section in the East attributes to Red Cross public health nursing service, a considerable measure of credit for a fifty per cent. decline in the infant mortality rate in that section over a five year period.

Medical men familiar with the relationship of the diet to the general health of the individual, whether child or adult, can accurately gauge the value of still another Red Cross national service, which has for its mission, public education in nutrition. Health authorities declare that the increase of knowledge of nutrition, in which the Red Cross has been greatly instrumental, is an important factor in the effort to raise the nation's health standards. Especially is this true, it is held, among school children, where the efforts of mal-nutrition constitute big handicaps. In many instances, Red Cross nutritionists are credited with improved conditions in this respect, both among the children, and their parents.

Thus, while the approaching Tenth anniversary of the Armistice brings up first, the great services called forth by those disabled veterans to whom the war is still of the present, it can be realized that Red Cross work for national health is equally vital.

This all constitutes a vast educational work, teach

ing the individual the importance of health, the importance of safeguarding health through the doctor, and through improved knowledge.

And lest the strictly emergency side of Red Cross health work be overlooked, it should be stated that there is seldom a disaster of any magnitude, that the Red Cross nurses are not called forth, to work with those volunteers and others from the medical profession whose services loom so large on such occasions in checking disease and mending the injured.

In just the past year, Red Cross public health nurses, at the request of local authorities, assisted on various occasions in post-disaster health work.

On November 11, this year, the American Red Cross will ask for five million members to be enrolled in its rank from the country at large. This number is necessary because the demands on the Red Cross service are growing, and only through the support of a large membership can they be met adequately. Since Red Cross service is representative of the people, as well as for their benefit, this membership is not a large one to ask. Enrollment will take place from November 11 to 29, in every part of the country.

CORRESPONDENCE

STATEMENTS OF A. M. VICKERY WITH REFERENCE TO THE CHRISTIAN SCIENCE TREATMENT OF PATIENTS

The Christian Science Watchman
20 Jackson Place N. W.
Washington, D. C.

October 17, 1928.

Editor BOSTON MEDICAL AND SURGICAL JOURNAL
126 Massachusetts Avenue
Boston, Mass.

Dear Editor:

The tragedies that have been permitted in the name of Christian Science by its overzealous devotees have largely justified the widespread prejudice against it. The Christian Science Parent Church, the independent minority movement in Christian Science, is endeavoring to bring a new spirit of sanity and common sense into the practice of mental healing. It recognizes the unselfish, humanitarian labors of the medical profession in alleviating human suffering. It likewise recognizes the vital function of spiritual forces in relation to health. It is convinced that there exists a basis of co-öperation on which medicine and religion may thrive together for the advancement of world health.

Since Mrs. Eddy's death, Christian Science practice has very largely become a commercialized faith-cure. The record of disease and death among Christian Scientists during the last few years is appalling. Because of a superstition that the use of a drug is an evil and the employment of medical aid tantamount to a confession that Christian Science has failed, the majority of the adherents of that faith turn to medical assistance only as a last resort, usually secretly and with the depressing conviction that they are committing a positive sin. Such an attitude tends to nullify the work of the physician and deplete the patient's mental capacity for recuperation. Frequently the doctor is called only when death is considered imminent, and to prevent, if possible, the embarrassment of an inquest.

These conditions have arisen from a misconception of Christian Science in its larger application. In order to prove to an incredulous world that the body can be healed by mind, drugs were discarded during the early stages of the movement. Nevertheless, it is a recognized fact in Christian Science that a drug may be the medium through which the common faith and hope of the majority of mankind expresses itself. In the personal experience of Mrs. Eddy there came a time when neither her own nor her followers' unaided faith was sufficient to relieve her of serious suffering. Understanding the power of the faith of the majority of mankind in medical science she decided to utilize it, and gratefully availed herself of the services of reputable physicians on various occasions.

In so doing, she was consistent with her own teaching on the relation of a minority's faith in mind-power to a majority's faith in material means. She was far in advance of her followers' practical application of Mind-Science. Had her example been intelligently followed by her students, Christian Science practice would today hold a higher place in the general estimation of the world.

The Christian Science Parent Church was organized a few years ago under the leadership of Mrs. Annie C. Bill. It has developed branches throughout Great Britain, America, Australia, and elsewhere. Its members have been recruited almost entirely from those who have resigned from the original Christian Science organization after they became convinced that the trend of thought within that body precluded further advancement of Mind-Science.

This organization maintains that the work of the Christian Scientist is limited to the teaching of spiritual truth, and to removing fear and other unhealthful moral conditions. Its members are forbidden by their Church By-laws to meddle in any way with medical or surgical practice, but must leave such work to those who are qualified and legally authorized for that responsibility. Neither shall a practitioner of this Church render his services unless both patient and attending physician request his aid.

Spiritual healing has a definite place in therapeutic practice. Therefore, in order that it may be utilized under such conditions as will keep it within its proper field and insure the maximum results, we bespeak the intelligent co-öperation of the medical fraternity.

Yours very truly,

A. M. VICKERY, *Editor.*

With the letter came a pamphlet with the heading "A Ghastly Record" with certain statements as follows:

"(The statistics herein contained have been compiled mostly from the official record of vital statistics of the town of Brookline. They can be verified at the Brookline Town Hall or from the records of the Medical Examiner of that district.)

"Several years ago, in the town of Brookline, Massachusetts, U. S. A., there was dedicated an institution called the Christian Science Benevolent Association Sanatorium. Its buildings, providing accommodation for something over one hundred inmates, cost over $1,000,000. They are considered among the finest examples of Tudor architecture in New England. It was announced in the printed matter distributed at the time, that this institution was not to be like a hospital, or the usual kind of sanatorium, but just

'a place where expectancy prevails and hope is enthroned'. The new institution was declared to be 'not an almshouse,' but a place where 'practical benevolence' was to be dispensed to the extent of its capacity at $24.00 (£5) per week 'and upward.' This institution, built since Mrs. Eddy's decease in 1910, is ostensibly owned by what is known as The Christian Science Benevolent Association Corporation, but this is really but another name for the Directors of The 'Mother Church' in Boston.

"Notwithstanding that it is described as a place 'Where expectancy prevails and hope is enthroned,' its death record is appalling. For some reason yet to be explained, death certificates were filed at Brookline Town Hall in a large majority of cases in violation of the rule requiring that the full name of an institution be recorded in a certificate when death has occurred in any *institution*. Only the street number on Boylston Street was given in almost all of these cases, just as the record would have been if decease had occurred in a private residence. Unless an inquirer is familiar enough with the street numbers and locations to identify scores of these certificates as recording deaths at the Christian Science 'Sanatorium,' it would appear that a death at that institution has been an exceedingly rare event. Thus has the official public death record concealed, rather than revealed, the facts."

Following this is a list of persons who passed away at the Sanatorium during the first five years of its existence. After this list appears a statement as follows: "In addition to the above, the following is a list of persons who died in the town of Brookline under Christian Science treatment during the same period, a list of which, though not complete, includes the 'overflow' from the Benevolent Association Sanatorium which has gone to so-called private Christian Science *sanatoriums* in Brookline."

There is a further indictment in language which is exceedingly severe relating to the death of patients. Then follows:

"There is a growing dissatisfaction with this 'Sanatorium' among many Christian Scientists who declare that it is a complete *inversion of Christian Science*. It is pointed out that collecting together a large number of persons suffering from practically all known diseases, many of them being of the most distressing varieties, is clearly opposed to Christian Science practice and violates a fundamental teaching of Mrs. Eddy, that sick persons should be kept in a healthy mental atmosphere not filled with haunting outlines of disease.

Brookline is the home of three medical hospitals of national reputation—the Corey Hill Hospital, the Brookline General Hospital, and the Brooks Hospital. In point of deaths, during the five-year period since the Christian Science Benevolent Association Sanatorium was established, and which the above figures cover, almost as many persons died in the Christian Science Benevolent Sanatorium as in all three of these famous medical hospitals together, and eighteen more Christian Scientists died in Brookline during this period than in all three of them.

If the total deaths in Brookline under Christian Science treatment during the period, as compared with those in private medical hospitals in that town for the same time, are compared with the small percentage of Christian Scientists in Brookline to the total population of that town, the resulting figures are staggering, as they have been declared to be during the past few years in many other localities.

(The facts above stated were widely published in America many months ago. They have never been officially or publicly denied.)

Published by
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Room 1, Victoria House, Southampton Row,
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and
20 Jackson Place N. W., Washington, D. C.

RECENT DEATHS

GRANGER—DR. FRANK BUTLER GRANGER, a pioneer in the development of physical therapy, died at his home in Allston, October 23, 1928, of cancer of the liver, at the age of 53.

He was the son of Dr. Frank Clark Granger of Randolph, a Fellow of the Massachusetts Medical Society, and of his wife, the late Alice Butler Granger. He was born in Belmont, Nevada, August 22, 1875, prepared for college at Boston Latin School, took his A.B. at Harvard in 1899 and M.D. at Harvard Medical School three years later. Dr. Granger served on the staff of the Boston Floating Hospital and as a member of the neurologic department of the Boston Dispensary before being appointed to organize the department of physical therapeutics at the Boston City Hospital in 1907. He had given much attention to electro-therapeutics while at the Dispensary and was at one time lecturer on this subject at Tufts College Medical School and also an instructor in electro-therapeutics in the Harvard Graduate School of Medicine. At the time of his death he was a member of the senior staff at Boston City Hospital, being physician-in-chief to the department of physical therapeutics.

At the beginning of the World war Dr. Granger was requested to give lectures at the training school of the Walter Reed Hospital in Washington and soon was called to active service with the rank of captain. He organized the first clinic in physiotherapy in the United States Army.

Later transferred to the office of the Surgeon General of the Army he was made director of physiotherapy for the United States Army. After the war he was discharged with the rank of lieutenant-colonel and was appointed adviser to the Public Health Service, which took over the care of the disabled veterans.

He was the first secretary of the section of Radiology and Physiotherapy of the State Medical Society in 1926 and chairman the following year.

Dr. Granger was a Fellow of the Massachusetts Medical Society, of the American Medical Association, and a member of the American Roentgen Ray Society. He was prominent in local Masonic bodies, was an Elk and a member of the American Legion, the Military Order of the World War and the Reserve Officers' Association.

Surviving him are his wife, who was Miss Clara Talbot Davis of Everett, whom he married in 1902, his father and a brother, L. Dwight Granger of Worcester.

MILOT—DR. WILFRID FRANCOIS MILOT, a Fellow of the Massachusetts Medical Society, died suddenly at

his home in Attleboro, October 19, 1928, at the age of 57.

A native of Canada he was graduated from Baltimore Medical College in 1900, settled in Fall River and joined the State Medical Society in that year. In 1905 he moved to Attleboro and had lived there since.

During the world war he served 27 months in the army, was overseas eight months, and was cited by the French government for his service to the natives in villages which came under his care. He retired with the rank of captain.

In 1920 he was appointed city physician by Mayor Phillip E. Brady. He was a member of the hospital staffs of Sturdy Memorial Hospital, Attleboro and Notre Dame Hospital, Pawtucket. He is survived by his wife Georgianna F. and three sons.

NEWS ITEM

DR. DANA W. DRURY, Boston, will read a paper before the Section of Otology of the New York Academy of Medicine in New York City on Friday evening, November 9, at 8:30 o'clock. The subject of his paper is "Syndrome-complex, Meniere".

NOTICES

THE RICHARD M. HOMBERG MEMORIAL INFIRMARY

The dedication exercises of the Richard M. Homberg Memorial Infirmary of the Massachusetts Institute of Technology will be conducted on Tuesday afternoon, November 13, at 2.30 P. M.

REMOVAL OF THE OFFICE OF DR. SOLOMON R. KAGAN

Dr. Solomon R. Kagan announces the removal of his office from 280 Humboldt Avenue, Roxbury, to 176 Seaver Street, Roxbury, Mass.

CHANGE OF ADDRESS

On and after November 1, 1928 the address of the State Medical Society of Wisconsin (Mr. J. G. Crownhart, Secretary) and the *Wisconsin Medical Journal* will be changed from 153 East Wells Street, Milwaukee, to Madison, Wisconsin.

REPORTS AND NOTICES OF MEETINGS

A SPECIAL MEETING OF THE PLYMOUTH DISTRICT MEDICAL SOCIETY

A special meeting was called by the Plymouth District Society at the Commercial Club in Brockton, on Monday afternoon at 4:30 P. M., October 8, for the purpose of seeing and hearing two of the prominent surgeons in their line in this country today. Dr. George F. Crile of Cleveland, Ohio, who has given much attention to diseases of the Gall Bladder, and Dr. Willis C. Campbell of Memphis, Tennessee, who specializes in Orthopedic Surgery.

This meeting was under the direction of Dr. Thomas H. McCarthy, president of the Plymouth District Society. In introducing Dr. Crile, Dr. McCarthy said to the members present, "It is my great pleasure to present to you today, Dr. George F. Crile of Cleveland, Ohio, one of the greatest, if not the greatest specialist in Gall Bladder Diseases, in this country today." In addressing Dr. Crile, Dr. McCarthy stated, "You are now gazing upon some, who are the direct descendants of the Pilgrims, who landed in Plymouth, just twenty miles from Brockton. You will find them a body of men, who are vitally interested in your subject. These men have come from all over old Plymouth County, to pay you homage, on your visit to Brockton, to address the members of the Plymouth District Society." Following this introduction Dr. Crile spoke on the subject "Some of the Problems of the Gall Bladder". He went into detail to illustrate anatomical relations of the gall bladder and liver and spoke about the end results that would be obtained when the patient had nephritis, high blood pressure, obesity and advanced age; these cases being bad risks whether chronic or acute. He presented pictures showing the splanchic nerves, just below the diaphragm, also the mechanism of gall bladder drainage through Morrison's pouch by the cigarette drain in lowering the point of gravity. He also dwelt on the effect of exposure to air temperature, explaining that the liver temperature falls one and one-half to two degrees when the liver is exposed and that it was one of the most important chemical factors in the body. During the World War in the Somme Offensive the officers were told not to operate unless adequate warmth could be maintained, so that a low temperature of the room would not interfere with operations in the regions of the liver. At the conclusion of his remarks, he was given tremendous applause for his most interesting talk.

Dr. Thomas H. McCarthy, President of the Society, then introduced Dr. Willis C. Campbell of Memphis, Tennessee, who spoke on "Reconstructions of Ankylosed Joints." His address was illustrated by moving pictures, which were the most complete that have ever been shown in this section. His pictures went into minute detail and showed the various surgical methods that were used in ankylosed joints. A picture of a girl before, during and after the operation of an ankylosed knee, who was unable to walk, was shown. After the operation, the girl was able to dance the Charleston and other intricate steps. He also showed another picture of a girl, who had an ankylosed elbow, before, during and after the operation. This girl also had all motions restored. He showed a picture of a negro boy, who had an ankylosed jaw. His mouth was absolutely closed, he required feeding through a tube before the operation. After the operation the moving pictures showed the negro boy with his jaws rapidly moving up and down, talking and laughing. A complete success. He stated that one could get the best results in operations on the elbow, hip, knee and jaw and went into extensive detail on all the various orthopedic operations, illustrating most of them by the aid of moving pictures. It was a very instructive meeting from all angles and will go down in history as one of the best meetings ever held in Plymouth County, made possible by the presence of those two great surgeons and the President of the Massachusetts Medical Society, Dr. John M. Birnie.

At the close of Dr. Campbell's remarks, Dr. McCarthy introduced Dr. John M. Birnie, President of the Massachusetts Medical Society. Dr. Birnie stated that he was always glad to meet the members of the

Plymouth District Society. "I feel as though I knew the members of this District very well, having been to Brockton twice before when they held their meetings." Dr. Birnie said, "If you let me know that there is anything that I can do to help you in your various problems, as President of the Massachusetts Medical Society, I will be glad to respond with my best efforts. It is a pleasure for me to work with you. We are trying to have a building of our own and I trust that each and every physician connected with your district society and the Massachusetts Medical Society will do everything that can be done to bring this about". Dr. Birnie was given great applause for his remarks.

A buffet lunch was served in the Grill Room.

Among those present from Brockton and surrounding towns were:

Brockton: Dr. Thomas H. McCarthy, Dr. Crile, Dr. Campbell and Dr. Birnie, Drs. Shaw, Smith, Lawrence, Murphy, James Murphy, Callahan, McNamara, Hollister, Mynns, Petty, McCann, Champ, Miles, Crimmins, Burack, Weinberg, Phaneuf, L. E. Copeland, Wallace, Condrick, Maligan, Moore, Kruger, Le May, Rifkin, Fullerton, Linfield, Bacon, Murdock, Drohan, Le Beauf, Polk, Weiner, Gillmore, Ferranni, Goodwin, Goddard, Leavitt, McLeod, Buckley, Burnett, Noyes, Walker, and Haynes.

Surrounding Towns: Dr. Faxon of Stoughton; Dr. Hidden of Carver; Drs. Rand, Dudley and Stevens of Abington; Drs. Wilfred Brown and Reed of Plymouth; Drs. Colgate and Corey of Rockland; Drs. Hanley, Pulsifer, Lovell and Shaw of Whitman; Drs. Whitemarsh and Belmore of West Bridgewater; Dr. Hayden of Pembroke; Drs. Chase and St. George of Duxbury; Drs. Will Hunt and Carr of Bridgewater; Dr. Littlehale of Hanson; Drs. Weller and Hanson of the State Farm; Drs. Shirley and Bannerman of East Bridgewater; Drs. Crawford and Cole of Holbrook; Dr. Elliot of Avon; Dr. Higgins of Randolph; Drs. D. T. Sullivan, J. W. Cook and J. L. Murphy of Mansfield; Dr Charles A. Atwood of Mansfield and Dr. Stevenson of North Easton.

MEETING OF THE NEW ENGLAND HEALTH INSTITUTE

One hundred and ninety-three health workers, including physicians, nurses, and lay representatives of health organizations, attended the fifth New England Health Institute held at Burlington, Vermont, on September 24th, 25th, and 26th. Charles F. Dalton, M.D., Secretary of the Vermont Department of Public Health, was Director of the Institute. The program committee was composed of Harold W. Slocum, F. S. Kent, M.D., C. P. Moat, and Nellie M. Jones, R.N.

The Institute was considered such a success that at a meeting of the Health Commissioners of the New England States, who constitute the Executive Committee of the Institute, it was voted to continue the enterprise, holding the next Institute at Hartford, Connecticut, in the Spring of 1929. Those present at the Executive Committee Meeting were: Dr. George H. Bigelow, Health Commissioner of Massachusetts; Dr. C. F. Kendall, Commissioner of Health, Augusta, Maine; Stanley H. Osborne, Commissioner of Public Health of Connecticut; Dr. B. R. Richards, Health Commissioner of Rhode Island, and Dr. C. A. Weaver of the State Department of Health, New Hampshire.

The Tuberculosis Program was furnished by the New England Conference of Tuberculosis, which is composed of the State Secretaries of the New England State Tuberculosis Associations.

At the opening session on "Public Health Administration" Dr. C. F. Kendall of Augusta, Maine, presided. Dr. Howard A. Streeter, Health Officer of Manchester, New Hampshire, read a paper on "Public Health Administration."

Dr. Streeter narrated the story of the foundations of public health work. He quoted extensively from the "Sanitary Code" of Moses, portraying the beginnings of the older public health work and sketching the origin in this country of regular boards of health. He also gave an account of the existing scheme of public health administration which is widely used throughout the country.

Dr. Streeter's paper was discussed by Mr. John Ritchie, formerly of the Boston Health Department, who emphasized the need of health education of the people as the underlying foundation to sustain the health officer in his work.

Dr. Clarence A. Scamman also discussed Dr. Streeter's address.

At this session a paper on "The Evaluation of Morbidity Surveys" was read by Dr. Herbert L. Lombard of the Massachusetts Department of Public Health.

Dr. Cole B. Gibson, Superintendent of the Meriden State Tuberculosis Sanatorium, Connecticut, spoke on "Childhood Tuberculosis". Dr. Robert B. Kerr, Clinician and Executive Secretary of the New Hampshire Tuberculosis Association, discussed Dr. Cole's paper. Both Dr. Cole and Dr. Kerr emphasized the importance of the early detection of tuberculosis in children and urged hospitalization of children showing positive signs of infection. Dr. Kerr praised the work of the Massachusetts Tuberculosis League and its Affiliated Organizations in conducting summer health camps for contact children and physically substandard children who are classed as suspicious.

Dr. Paul Wakefield of the staff of the Massachusetts Department of Public Health spoke on the "Ten-Year Program of Massachusetts". He explained in detail the plan of examinations and stressed the fact that the presence of parents with the children when they are examined enhances the value of the clinic sessions. Nutrition workers of the clinical staffs in addition to the physicians confer with the parents regarding the problems of diet and regimen of life of the individual children.

At the session on "Preventable Diseases" Dr. Elliott Robinson, Assistant Director of the Biologic Laboratories, Department of Public Health, Massachusetts, spoke on "Scarlet Fever". Dr. Robinson stated that control of this disease is exceedingly difficult because of the fact that rash may appear in so light a form that a diagnosis of the disease is extremely difficult to make. The symptoms of the disease are such common ones that a person suffering from it may not be sufficiently ill to think the services of a physician are necessary and many cases are unrecognized.

Miss Marion Garland, R.N., of the Staff of the New Hampshire Tuberculosis Association, with headquarters at Laconia, New Hampshire, spoke on "Tuberculosis Nursing in Rural Territory". Miss Garland stated that in recent years the effects of widespread publicity about tuberculosis have become more apparent in rural areas. This has resulted in an

increase of attendance at clinics both on the part of persons suspecting tuberculosis and those who have returned from sanatoria as arrested cases. In the latter group the number of persons who have relapses in the disease is decreasing in the rural sections of New Hampshire.

James N. Pringle, Deputy Commissioner of Education of New Hampshire, also spoke on the Tuberculosis Program on "Physical Inspection of School Children in Rural Communities". Mr. Pringle indicated that the influence of the well-established medical inspection departments of municipal school systems are having their influence in the suburban and rural areas. In those sections of the State of New Hampshire which lie at great distances from the urban centres considerable difficulty is experienced in maintaining adequate medical and nursing service for the school population. The schools are in fact handicapped in the same way that the communities themselves are handicapped by inadequate medical supervision. Another major difficulty of the work in the rural areas is the indifference of the population. This calls for intensive educational work among the people at large on the paramount importance of preventive health work from the earliest years of childhood.

The outstanding address in the section of Public Health Nursing was given by Professor Ira Hiscock of the faculty of Public Health of Yale University. Miss Elizabeth P. Van Patten, R.N., of the Visiting Nurse Association of New Haven, Connecticut, presided at the meeting at which Dr. Hiscock spoke. He stated that there are not less than one hundred types of public health nursing work being carried on in the country. The reason for this great variety is the altered combination of factors in each locality. He said that the standard for public health nursing which has become widely accepted is that there should be one nurse for each two thousand of the population. Over the country the per capita expenditure on health has been calculated to be $2.00 per annum. Of this amount 86c should be used for nursing service both bedside and preventive. He discussed the relative advantages of a generalized nursing program and specialized nursing service, indicating that one type will operate in one locality and the other work to better advantage in other places. On the whole he thought that the generalized nursing program where possible is more desirable for all practical purposes.

Miss Elsie F. Smith, R.N., of Greenfield, Massachusetts, and Mrs. Mary McGee of Brockton, Massachusetts, were among those who discussed Dr. Hiscock's paper.

In the section on Child Hygiene, over which Dr. Merrill E. Champion, Director of the Division of Hygiene of the State Department of Health of Massachusetts, presided, the features were a motion picture on breast feeding and a round-table discussion on public health education. Mrs. E. G. McCarthy of the Massachusetts Health Department demonstrated the material used by that Department. Discussion was had of the desirable features of newspaper publicity, the proper technique in preparing posters and layouts for fairs or exhibitions. There was a discussion of the value of stereopticon slide lectures and motion pictures as media for carrying home to the people important health facts.

Dr. Stanley H. Osborne, Health Commissioner of Connecticut, spoke on "Milk". He discussed the intermittent carrier and the occasional presence of the organism of scarlet fever in the udder of the cow.

Dr. Howard A. Lamphier also discussed the spread of disease through bovine infection.

Dr. George H. Bigelow spoke on the outbreak of sore throat in the summer of 1928 at Lee.

All the speakers emphasized the need of proper pasteurization of milk.

On Monday evening, September 24, a large number of those in attendance at the Conference attended a corn roast on the Cooke Estate at Mallets Bay, Lake Champlain. The invitation was extended by Miss Cora L. Cooke, R.N., Executive Secretary of the Essex County Health Association, one of the affiliated organizations of the Massachusetts Tuberculosis League.

WORCESTER NORTH DISTRICT MEDICAL SOCIETY, FITCHBURG, MASS.

The regular quarterly meeting was held Tuesday, October 23, 1928, at Gardner State Colony.

An opportunity was given of visiting all departments of the Colony, both before and after luncheon. Luncheon was served at 1:30, followed by a medical meeting.

Dr. Arthur Burke of the Psychopathic Hospital in Boston was the principal speaker and his subject was "The Modern Treatment of Syphilis of the Central Nervous System." Advanced work along lines of treatment of the central nervous system is being done at the Psychopathic Hospital and the conclusions which may be drawn from it were reviewed by Dr. Burke.

Dr. L. O. Farrar, Assistant Superintendent, gave a ten-minute discussion, bringing out "The Relation of the General Practitioner to Mental Disease."

Dr. Frederick P. Moore, Assistant Physician, told of the workings of Veterans' Compensation Act as it applies to nervous and psychiatric conditions.

Dr. Mary Danforth, Assistant Physician, gave a ten-minute report on "Hydro-therapy Treatment for One Year Since the Opening of Our New Treatment Building."

Dr. Harold K. Marshall, Assistant Physician, gave ten minutes on the subject, "Neuroses and Psychiatric Conditions as Associated with Leprosy." Dr. Marshall has had considerable experience in the treatment of leprosy.

Dr. Charles E. Thompson, Superintendent, gave a short review of the work of the past year and presented cases of interest.

J. H. KEARNEY, *President.*
C. H. JENNINGS, *Secretary.*

MEETING OF THE SOUTHERN MIDDLESEX HEALTH ASSOCIATION

The annual meeting of the Southern Middlesex Health Association was held in Medford, Mass., October 17, 1928.

Dr. John B. Hawes, 2nd, spoke on the subject "Is There Need for Private Tuberculosis Associations?"

The following officers were elected: President, Dr. C. C. MacCorison, Superintendent of the North Reading State Sanatorium; Vice-Presidents, Dr. Wilfred MacKenzie of Winchester and William J. Bell of Somerville; Treasurer, E. Earle Blakely of Medford, and Mrs. C. C. Patch of Stoneham, Secretary

LYNN MEDICAL FRATERNITY

The Lynn Medical Fraternity held its regular meeting on Tuesday, October 16, 1928, at Huntt's Grill.

The speaker of the evening was Dr. Edward W. Taylor of Boston, whose subject was Epilepsy.

THE WACHUSETT MEDICAL IMPROVEMENT SOCIETY

The Wachusett Medical Improvement Society met at the Holden District Hospital, October 3, 1928.

Dr. Joseph Muller of Worcester was elected President, Dr. Leslie P. Leland of Worcester, Vice-President, and Dr. Paul Dufault of Rutland State Sanatorium, Secretary and Treasurer.

Dr. M. M. Jordan, of Worcester, read an interesting paper on psychoneurosis. Much discussion followed this paper.

WILLIAM B. DAVIDSON, M.D.

TRUDEAU SOCIETY

The next meeting of the Trudeau Society of Boston will be held on Tuesday evening, November 13, 1928, at 8:15 p. m., in Sprague Hall, Boston Medical Library, 8 The Fenway, Boston.

The speaker will be Dr. Harlan F. Newton of Boston; subject: "Observations of the Surgical Treatment of Pulmonary Tuberculosis in Europe."

Physicians, medical students and nurses are cordially invited to attend this meeting.

RANDALL CLIFFORD, *Secretary.*

GREATER BOSTON MEDICAL SOCIETY

A regular meeting of the Society will be held on Tuesday, November 13, 1928, at the Beth Israel Hospital.

PROGRAM

James P. O'Hare, M.D.: "Nephritis and Nephrosis."

Discussion: Louis J. Ullian, M.D., Saul Berman, M.D. (From standpoint of Nephritis in Toxemias of Pregnancy.)

Demonstration of Hospital Cases by members of the Staff of the Beth Israel Hospital.

All medical students and nurses are cordially invited.

ROBERT SLATER, M.D., *Secretary.*

68 Bay State Road, Boston.

BRISTOL SOUTH DISTRICT

The Semi-Annual Meeting will be held in Fall River, at the Quequechan Club, on Thursday, November first, 1928, at 5 P. M.

Dr. Howard B. Sprague of Boston will be the speaker.

Subject:—"The Fate of the Cardiac Undergoing Surgery".

The Censors will meet these applicants for membership at 4.30 P. M.—Aaron Kaufman, James C. McAdams.

DR. GEO. E. BORDEN, *Secretary.*

SOCIETY MEETINGS

Combined Meetings of the Boston Medical Library, the Suffolk District Medical Society, the Middlesex South District Medical Society and the Norfolk District Medical Society

November 21, 1928—Meeting in association with Norfolk District Medical Society. Dr. Frederick W. O'Brien will read the paper entitled "Recent Advances in Physical Therapy" and Dr. Edwin T. Wyman will open the discussion.

December 19, 1928—Surgical Section. Symposium on Stomach Surgery. "Operative Procedures; Indications and Results," Dr. R. H. Miller; "Selection and Management of Patients for Gastric Surgery," Dr. H. M. Clute; "Acute Perforations of Stomach and Duodenum," Dr. W. R. Morrison; "Results of a Series of Stomach Operations," Dr. E. S. Emery, Jr. Discussion by Doctors David Cheever, Edward P. Richardson, Frank H. Lahey and I. J. Walker.

January 30, 1929—General meeting in association with Boston Medical Library. "Heredity," Professor George H. Parker, Harvard University.

February 27, 1929—Medical Section. "The Newer Knowledge of Nutriment," Dr. Lafayette B. Mendel (exact title to be submitted later). Yale University Medical School.

March 27, 1929—Meeting in association with Middlesex South District Medical Society. Clinical and Experimental Studies of Obstructing Jaundice and Its Complications. Dr. Waltman Walters, Mayo Clinic.

April 24, 1929—Annual meeting. Speaker, Dr. Walton Martin, New York City. Title to be announced later.

The medical profession is cordially invited to attend all these meetings.

November 9-10—New England Surgical Society. Tenth Meeting. Complete notice appears on page 854, issue of October 25.

November 13—Trudeau Society. Complete notice appears on page 799, issue of October 18.

November 13—Greater Boston Medical Society. Detailed notice appears elsewhere on this page.

December 3-7—Radiological Society Convention. Detailed notice appears on page 712, issue of May 17.

DISTRICT MEDICAL SOCIETIES

Barnstable District Medical Society

Schedule of Meetings: November 1, 1928, February 7, 1929, May 2, 1929.

Bristol North District Medical Society

April 18, 1929—Spring meeting.

Bristol South District Medical Society

November 1—Detailed notice appears elsewhere on this page.

Essex North District Medical Society

November 1, 1928 (Thursday)—Censors meet at Hotel Bartlett, 95 Main Street, Haverhill (Tel. 3430), at 2 P. M.

January 2, 1929 (Wednesday)—Semi-annual meeting at Haverhill, at 12:30 P. M.

May 1, 1929 (Wednesday)—Annual meeting at Lawrence, at 12:30 P. M.

May 2, 1929 (Thursday)—Censors meet at Hotel Bartlett, 95 Main Street, Haverhill, at 2 P. M. (Tel. 3430.)

Essex South District Medical Society

November 1, 1928 (Thursday)—Censors meet for examination of candidates at Salem Hospital at 3:30 P. M. Candidates should apply to the Secretary (Dr. R. E. Stone, Beverly) at least one week prior.

November 7, 1928 (Wednesday)—Salem Hospital. Clinic at 5 P. M. Dinner at 7 P. M. Speaker: Dr. Harry Solomon, Boston. Subject: Syphilis of the Nervous System. Discussion by Drs. W. V. McDermott of Salem and C. A. Bonner of Hathorne (10 minutes each). Discussion from the floor.

December 5, 1928 (Wednesday)—Beverly Hospital. Clinic at 5 P. M. Dinner at 7 P. M. Speaker: Dr. Fred H. Albee, Sc.D., F.A.C.S., Professor of Orthopaedic Surgery, New York Post Graduate Medical School. Subject: Automatic Machinery in Bone Surgery. Discussion by Drs. H. C. Bean of Salem and C. Damsky of Lynn (10 minutes each). Discussion from the floor.

Franklin District Medical Society

Meeting will be held on the second Tuesday of November, January, March and May.

Hampshire District Medical Society

December 12—Address by Dr. Philemon Truesdale.

March 13, 1929—Address by Dr. George E. Gage, Professor of Bacteriology and Physiology at the Massachusetts State College.

Middlesex East District Medical Society

The following schedule of meetings has been arranged for the coming year:

November 14—Woburn.
January 16—Wakefield.
March—Reading.
May—Melrose.

Subjects and speakers to be arranged by committees in each city or town.

Middlesex North Medical Society

The winter meeting will be held the last Wednesday in January.

The annual meeting will be held the last Wednesday in April.

Middlesex South District Medical Society

March 27, 1929—Joint meeting with the Suffolk and Norfolk Districts.

April, 1929—Annual meeting. Definite date to be announced later.

Norfolk District Medical Society

Below are the proposed meetings of the Norfolk District Medical Society for the 1928-29 Season. The schedule below will be adhered to as strictly as possible. The carrying out of the proposed plan will, of course, depend upon the acceptances of invitations extended to the speakers. Minor changes may be necessary.

November 21—Boston Medical Library. In combination with Suffolk District and Middlesex South District Societies. Subject, Recent Advances in Physical Therapy. Dr. Frederick W. O'Brien and Dr. Edwin T. Wyman.

January 29—Roxbury Masonic Temple. Subject, Treatment of Varicose Veins by the Injection Method—Dr. E. E. O'Neil. Dr. Homans will open the discussion.

February 25—Roxbury Masonic Temple. Dr. W. R. Ohler. Subject to be announced. Discussion to be opened by Dr. A. A. Hornor.

March 29—Roxbury Masonic Temple. Subject and speakers to be announced.

May, 1929—Annual meeting program to be announced.

The Censors of the Society meet November 1, 1928, and May 9, 1929, at the Roxbury Masonic Temple, Warren Street, Roxbury, at 4 P. M., for the examination of candidates.

Plymouth District Medical Society

November 15, 1928—Meeting at the Lakeville Surgical Sanatorium, Lakeville, Mass. Special invitation of Superintendent Dr. Leon A. Alley; speakers who will address the meeting on special orthopedic subjects. Dinner served by the management of the Sanatorium.

January meeting, Thursday, January 17, 1929, at 11 A. M., Brockton Hospital, Brockton, Mass. Speakers: Dr. Michael F. Fallon, Chief of Surgical Staff, St. Vincent's Hospital, Worcester, Mass.; Dr. Edw. J. Denning, Chief of Medical Staff, Carney Hospital, Boston, Mass.; subject to be announced later.

March meeting at the Moore Hospital, Brockton, Mass., March 21st, program to be announced later.

April meeting at the Commercial Club, Brockton, April 18th, at 6 P. M. Annual Oration by Dr. Ralph C. McLeod, Orator; dinner.

Suffolk District Medical Society

November 1—Censors' meeting. See page 799, issue of October 18, for detailed notice.

March 27, 1929—Meeting in association with Middlesex South District Medical Society. "Clinical and Experimental Studies of Obstructive Jaundice and Its Complications," Dr. Waltman Walters, Mayo Clinic.

April 24, 1929—Annual meeting. Speaker, Dr. Walton Martin, New York City. Title to be announced later.

LINCOLN DAVIS, M.D., President.
ARTHUR H. CROSBIE, M.D., Secretary.

Worcester District Medical Society

November 14, 1928—Chamber of Commerce, Worcester. Genito-Urinary and Dermatological Program.

December 12, 1928—Chamber of Commerce, Worcester. Orthopedic Symposium.

January 9, 1929—Chamber of Commerce, Worcester. Dr. Leon T. LeWald of New York City.

February 13, 1929—Worcester State Hospital. Program to be announced.

March 13, 1929—Worcester City Hospital. Dedication of New Nurses' Home. Speaking program to be announced.

April 10, 1929—Grafton State Hospital. Program to be announced.

May 8, 1929—Annual meeting. Worcester Country Club.

Worcester North District Medical Society

January 22, 1929 (Tuesday)—At Henry Heywood Memorial Hospital, Gardner, by invitation. Program by Staff.

Annual meeting the fourth Tuesday in April.

BOOK REVIEWS

Recent Advances in Chemistry in Relation to Medical Practice. W. McKim Marriott, B.S., M.D. C. V. Mosby Co., St. Louis. 1928. Pp. 138.

This book is composed of a series of lectures given by the author at the San Diego Academy of Medicince, and deals with fundamental chemical considerations, acidosis and alkalosis, the chemistry of the blood, foods and metabolism, and the endocrines. Some of the subjects described and discussed are atoms, ions, colloids, ketosis, alkalosis, cyanosis, blood calcium, blood protein, and cholesterol. Considerable attention is given to calories, proteins, fats, carbohydrates, and vitamines of the food; and diets for anemia, diabetes, nephritis, obesity, pellagra, and during infancy are briefly described. And at the end of the book a section is devoted to the pancreatic, pituitary, parathyroid, and ovarian hormones.

The information and point of view given by the author is eminently sound and logical. The author had an unusually good chemical training, after which he took up the practice of medicine. He is therefore unusually well fitted to describe the advances of chemistry in medicine. The book is well written and interesting and should find a place on the shelves of every physician anxious to keep abreast of the times.

Addresses on Surgical Subjects. Sir Berkeley Moynihan, Bart., President of the Royal College of Surgeons of England. W. B. Saunders Company, 1928. 348 pp.

This collection of addresses and essays has been assembled from various medical journals and published as a single well-printed volume. They reflect the broad surgical knowledge and keen historical sense of their famous author. The series includes the following Memorial Addresses: The Hunterian Oration; the Harveian Oration; The Murphy Oration; besides other honorary lectures. Three of the essays concern Lord Lister, whose discoveries are cited as doing for the craft of surgery what John Hunter had done for its science. The Hunterian Oration pictures in detail the contributions of Hunter and Lister under the title "Hunter's Ideals and Lister's Practice."

The volume is by no means given over to historical and biographical subjects. Essays appear on such specific subjects as "Perforation of Gastric and Duodenal Ulcers," "Acute Pancreatitis" and "The Gallbladder and Its Infections." These subjects are handled in a masterful way and are based on the wide clinical experience of the author.

These papers arouse more than a transient interest. In the words of the Author's Preface, "They embody the faith of one who has spent his life in Surgery, a faith which unwaveringly holds that there is no finer craft, nor any more sacred mission than the practice of our Art. They seek to show that even supreme excellence in our Art is not enough; that Surgery is also the most powerful weapon of research ever placed in the hands of man for his own welfare. The Art of Surgery made perfect is the handmaid of its Science."